# EXCELLENT
MANGA
SKETCHING TECHNIQUES

COMPLETE MASTERY

vol. **1**

Pretty Girl

Hikaru Hayashi (Go office) & Tsubura Kadomaru

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vol.1 Pretty Girl

■ About the author

Hikaru Hayashi

Hikaru Hayashi was born in 1961 in Tokyo, Japan. His cartoonist career began when he was graduated from the humanities department of Tokyo Metropolitan University majoring in philosophy. He won the BUSINESS JUMP consolation prize and excellent works prize. He learnt from cartoonists Hajime Furukawa and Noriyoshi Inoue. He established his reputation with the memorable memoir cartoon AJA KONG Story. In 1997, he set up Go office, a cartoon design and production firm. He has published over 50 books of Cartoon Techniques in Japan and abroad.

◆ http://www.go-office.jp/

Tsubura Kadomaru

Tsubura Kadomaru has been fond of painting since childhood. She served as head of the art club in junior and senior high schools. The art club is actually a cartoon society and Gundam seminar. She served as a guardian of the art club and its members. The art club has cultivated a group of active game and cartoon developers. She is in the heyday of image expression and modern arts. She is studying oil painting in the art club of Tokyo National University of Fine Arts and Music.

Preface

Drawing female figures is an everlasting theme in cartoons, animation and illustrations.

I looked up image websites on the Internet recently. I found out that professionals and amateurs are complaining it is difficult to draw the female body well.

Although there are not big distinctions between drawing female figures and male figures and other roles, this question continues to remains, because too many people enjoy drawing female figures.

In two dimensional space, female figures are expressed with curves, along with complex cylinders to reveal stereoscopic feelings. If we do not understand fundamental principles and compositions, we will certainly be unable to draw them well.

This book starts with the full-length portrait of figures, introducing how to draw up lovely faces of girls and bodies with female characteristics. We approach the issue from the whole to parts, and from parts to the whole. We illustrate them in the whole and part perspectives. This method might look difficult in the beginning. But by observing parts, we will have an intellectual knowledge of the whole, and inspire readers to ponder over the whole.

Observe and think, and draw on the basis of theories (re-composition and expressions) – this is the only way to improve drawing.

Drawings are made after thinking. Understand this, and we will make progress fast.

It will be wonderful if we look at issues neglected previously and issues to be scrutinized at a different angle.

We might lose some joys from spontaneous creation, if we think too much about detail first. But if we keep making spontaneous drawings, we will not make much progress no matter how long we are engaged in it (of course, it is important to draw following our instincts. But we need to differentiate between spontaneity and deliberation.)

Grasp forms, understand form connection (construction), deliberate on the art while drawing, and accumulate experiences. If one day, you are hit by the ideas "I do not know how to draw it well", and "I want to draw it better", you will have another door opened in front of you.

Start from here to draw up lovely figures of unique characteristics.

I hope this book may provide powerful help to the broad masses of cartoon fans.

Hikaru Hayashi with Go office

The female figures are all pretty girls

The personalities of the female figures are expressed in subtleties. Therefore, when we meditate on designing female figures, we may present pretty girls of diversified manners through subtle changes in their details.

Movements and expressions

Hair style and shape of eyes

About 6.5-headed body

About 6-headed body

Head (thickness and quality of hair)

About 4.5-headed body

4

Flirtatious
expression

About 6.5-headed body

What's most
important is
proportion of head
and body.

It will create a utterly
different impression
to change slightly the
proportion of head and
body.

About 8.5-headed body

About 4-headed body

Leg length (root of
thigh)

Shoulder
breadth

Learn these "subtleties"
with this book.

5

Take on a new look through transformation (bodily change)

Face (head)

With transformation, the facial features of the figure instantly shine with splendid charms.
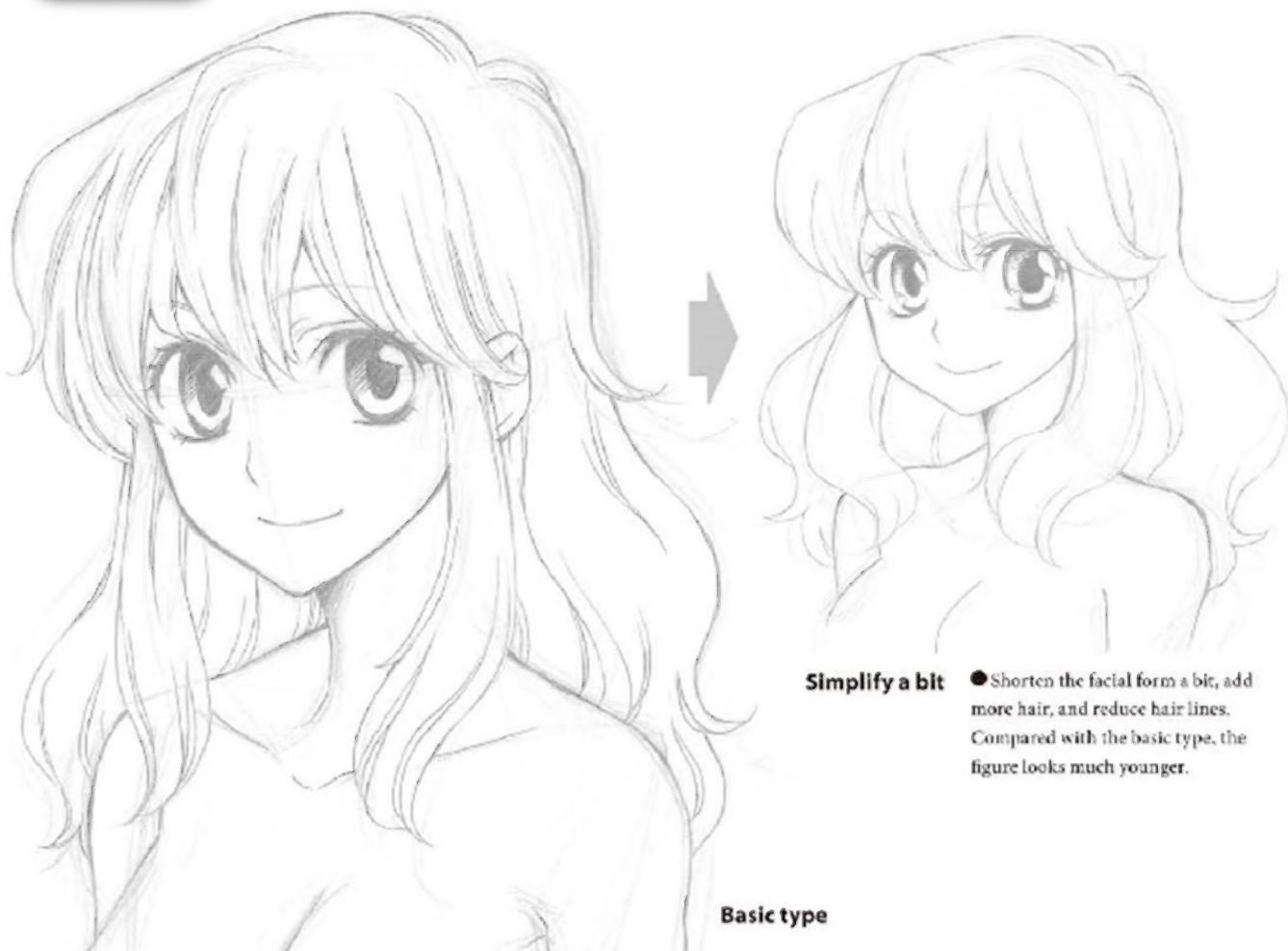
Simplify a bit ● Shorten the facial form a bit, add more hair, and reduce hair lines. Compared with the basic type, the figure looks much younger.

Basic type

Before the transformation

It fully follows the realism style before transformation, without incarnating the personality of the figure.

Improve it slightly

● Sharpen eyelashes and draw lips red. The figure becomes more mature.

Change hair style
(High pony tail)

● Maintain original technique to draw facial features, except for exposing forehead and ears, to create totally different impressions.
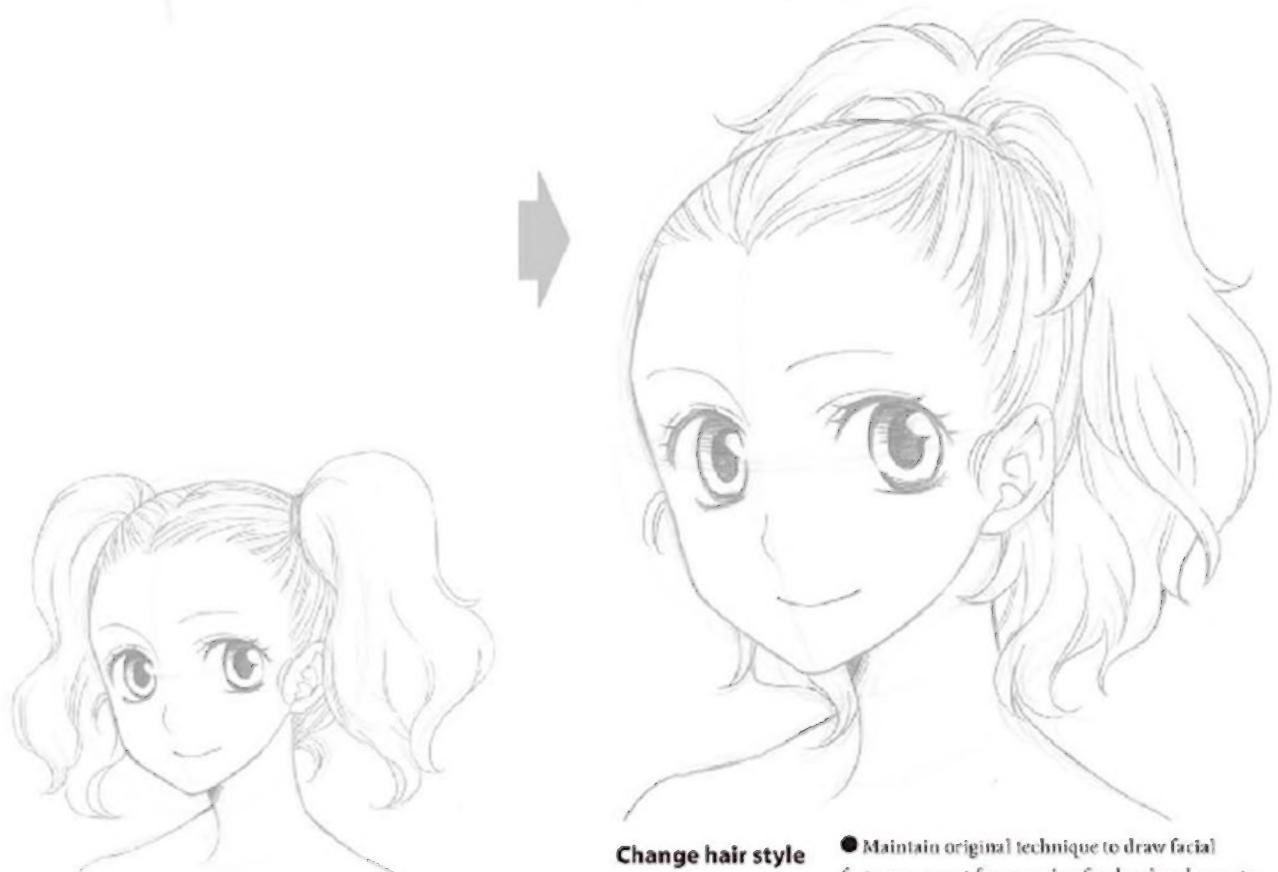
Change hair style by designing it into two pony tails.

No matter how it ends, the figure is drawn naked in base

Body
(Trunk)

It will end in unexpected failure to start with drawing clothes. Only do this with the figure's body when you have fixed the proportion of the body.

Body sketch

It will end like this, if we draw clothes only following our instincts and subsequently adding gestures of hands and feet. We will draw the figure well only when precisely understanding how the whole body is connected, including facial features (head).

Blouse

Skirt

Stockings

In drawing, we must be aware that clothes are wrapped around the body akin to cylinder.

The trunk, arms and legs are cylinder.

The base is a naked body

In drawing the figure, we must take into consideration the body's contour line, integral structure, length of all parts, and their relations to the trunk.

Before drawing clothes, we must fix the positions of shoulders, waist and thigh roots (referring to Practice in Drawing in page 36).

The base of the naked body is proportional to the head and body

Whole body (Balance)
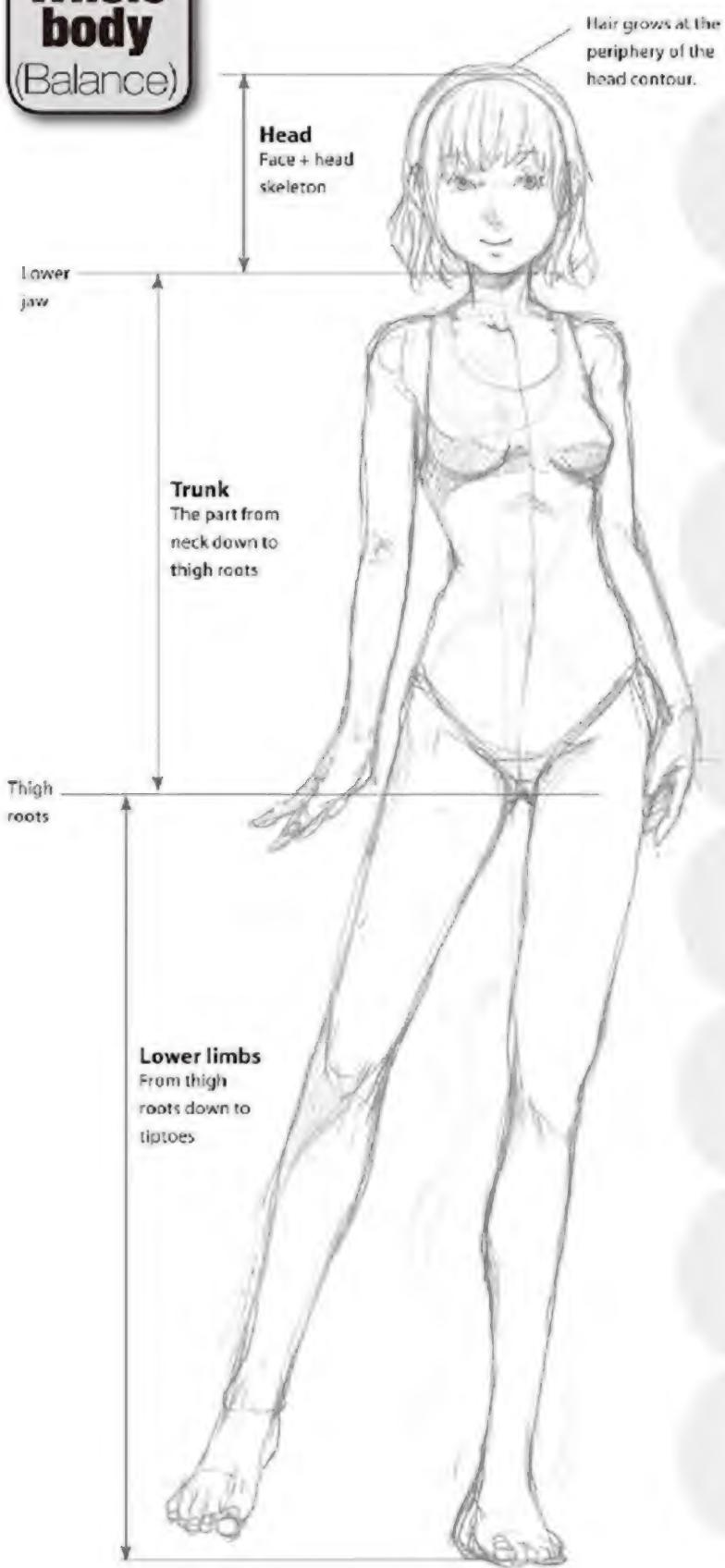
To balance head and body in drawing a figure, we must grasp the figure as a whole. The base of integral feeling is to maintain the proportion of head and body.

Hair grows at the periphery of the head contour.

Head
Face + head skeleton

Lower jaw

Trunk
The part from neck down to thigh roots

Thigh roots

Lower limbs
From thigh roots down to tiptoes

● **8-headed body**
8-headed body is the proper body proportion of adults, in which the head is relatively small.

The figure's head becomes smaller and arms and legs are longer, when she grows closer to an adult. Remember legs are longer than the trunk.

Head

Trunk

Lower limbs
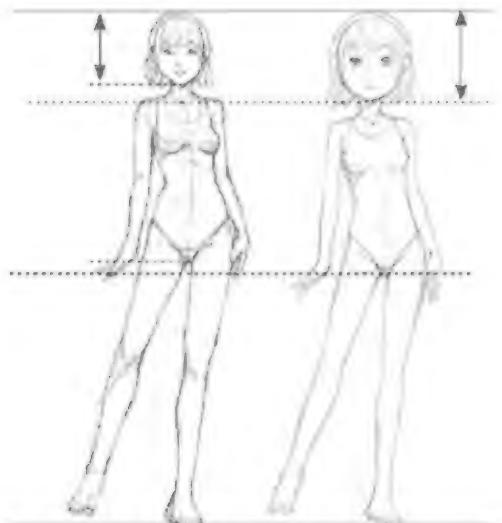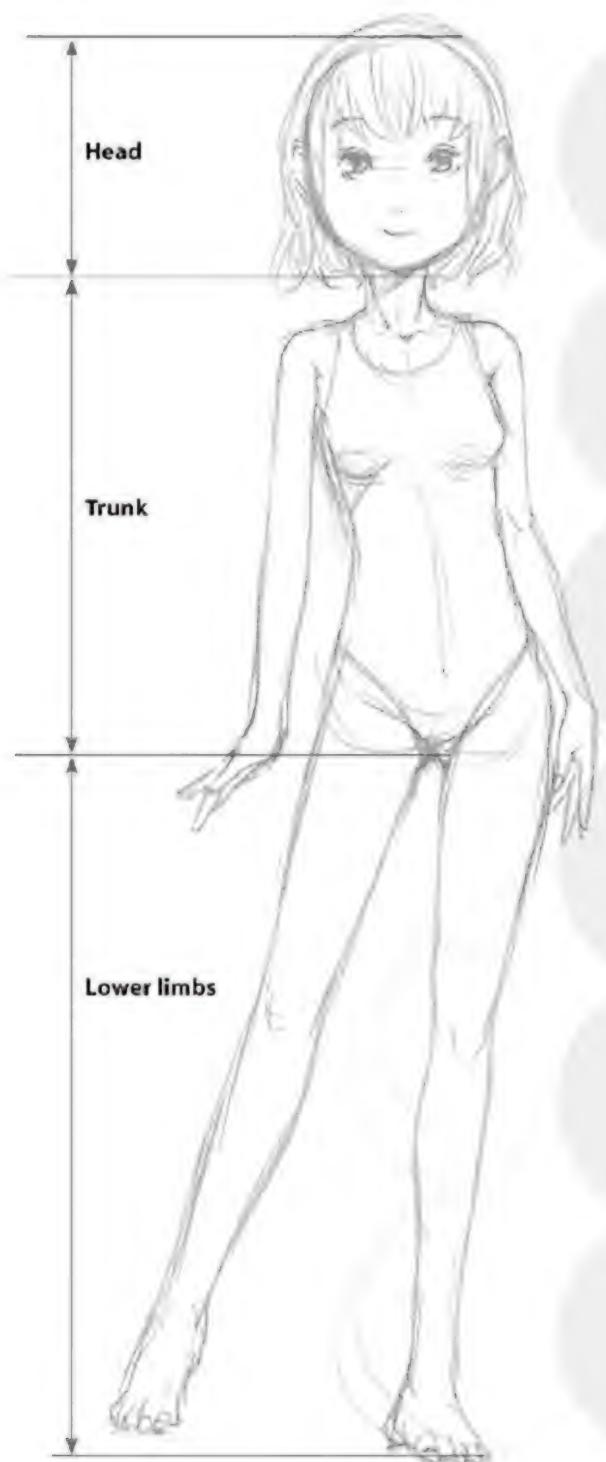
Put two figures of identical height together and it is easy to see they have different sized heads, and their head-body proportions are also different.

● **6-headed body**
The head looks larger relative to the whole body, making the figure look like a child.

The younger the figure is, the head is relatively larger, arms and legs are shorter, and the trunk is relatively longer.

contents

How to read the book ~Improve your drawing skills through "focalized" and "overall" training ~

● How to overcome difficulties.

Overcoming weakness through focalized training. For example, if you cannot draw eyes well, focus on drawing eyes. In like manner, focus on hair if you cannot draw hair well…. Intensify focalized training in this mode. It needs dedicated repetitions to get over your weakness in drawing. Naturally, it does not necessarily mean you can draw a figure well only by drawing parts well.

● How to become a master hand ~Be aware of the whole when drawing, and gradually cultivate the capability to grip overall balance~

Cultivate the sense of balance to link face, body, trunk, arms and legs under different portrait modes, such as drawing full-length portraits, busts, and half-length portraits. The most fundamental ability is to know the proportion of head and body.

● Pay close attention to different drawing styles, balances and techniques.

Each person has his own drawing style and his own mode for brevity and balance.

If we keep our mind only on one painter and learn his drawing techniques, we will simply be an imitator. To establish our own styles, we must pay more attention to works of our favorite painters, as well as paintings of styles opposite to our preference. It is a good learning method to observe at all times.

The illustrations of this book are drawn by many persons exactly for that reason.

Components of head:
hair + facial features

Full-length portrait

A figure can be split into many parts.

Components of the body: chest, waist and abdomen. When taken apart, the body can be expressed in diversified geometries.

Although each part looks independent, they are actually joined up to compose an integrated whole, which is fundamental to the drawings. The sizes and forms of the parts are all based on the integrated whole. It is meaningless to draw parts before fixing the style of the integrated whole.

✦All the illustrations of the book are drawn with pencils or propelling pencils. When printed, the effects might be different from actual drawings of pencils in lines and shades.

Chapter One
Draw full-length portrait

1/2 rule

~ Foundations for body balance ~

The positions of joints are most crucial for us to balance the human body well. With regard to arms, legs, trunk and the whole body, the positions of elbows, knees, waist and thigh roots are exactly the midpoints of these parts. They are applied as benchmarks to determine balance of human body.

Top of the head

Head

Lower chin

Arm
1/2

Elbow

Chest

Trunk

Waist · · · · · · · · · · · · 1/2 Trunk

Thigh root ▶ · · · · · · · · · · · · · · · ◀ 1/2 Whole body

Lower limb

Leg
1/2 · · · · · · · · · · Knee

Ankle

Central of foot
(foot arch)

Tiptoe
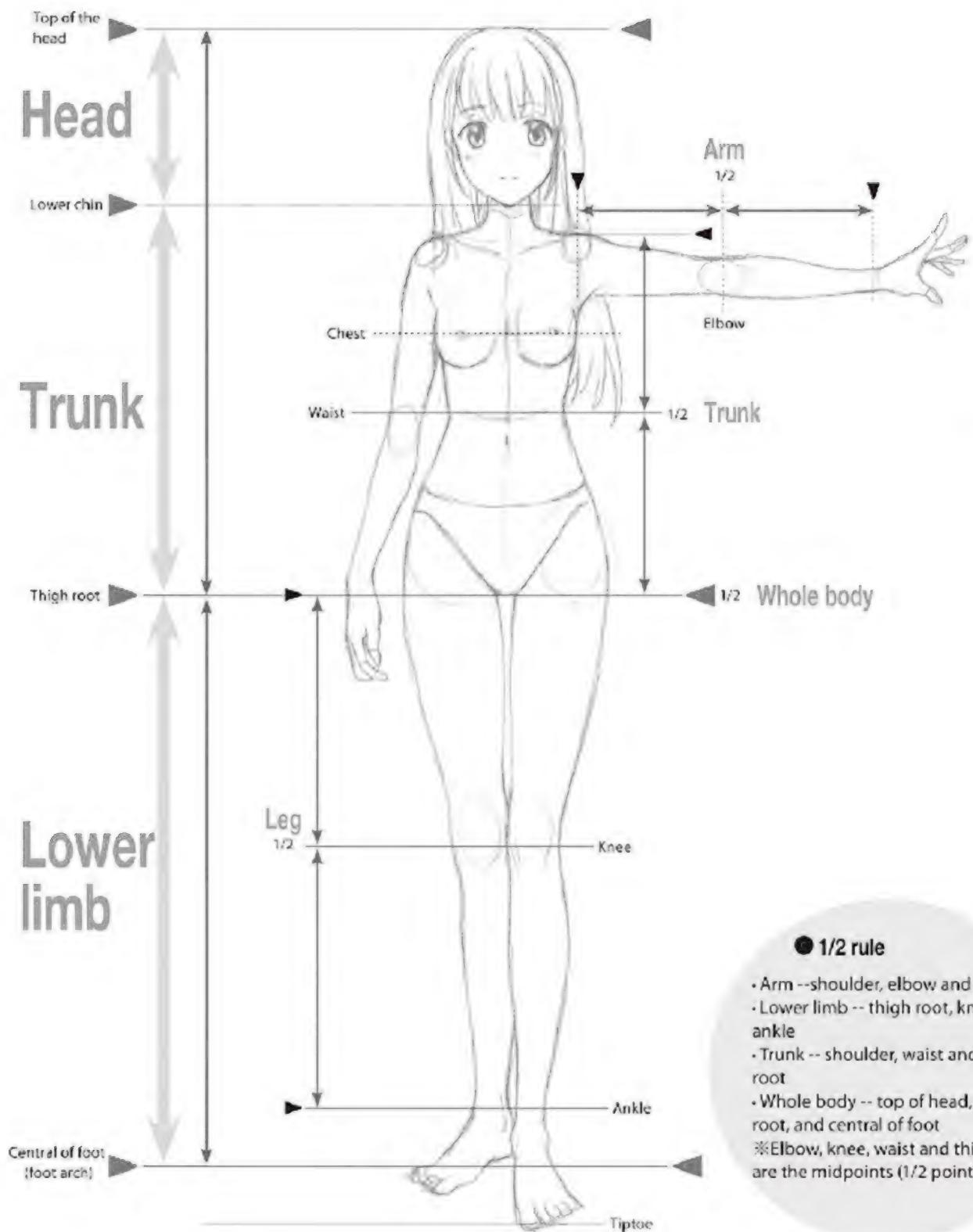
● **1/2 rule**

- Arm --shoulder, elbow and wrist
- Lower limb -- thigh root, knee and ankle
- Trunk -- shoulder, waist and thigh root
- Whole body -- top of head, thigh root, and central of foot
※Elbow, knee, waist and thigh root are the midpoints (1/2 point)

Arm length basically equals the length of trunk

- Top of head
- Shoulder
- Waist
- Thigh root
- Ankle
- Sole of foot

Key points

In general, the elbow is placed at the waist when an arm is let down naturally.

Key points

The wrist is placed at the root of thigh.

Human body is not planar. So, it is unnecessary to precisely fix the 1/2 positions. Human body will be basically balanced so long as the 1/2 positions are roughly found.
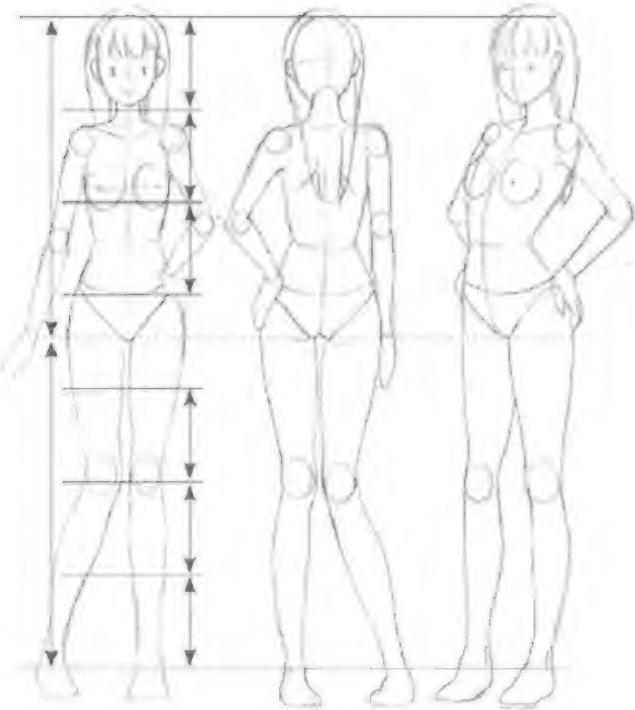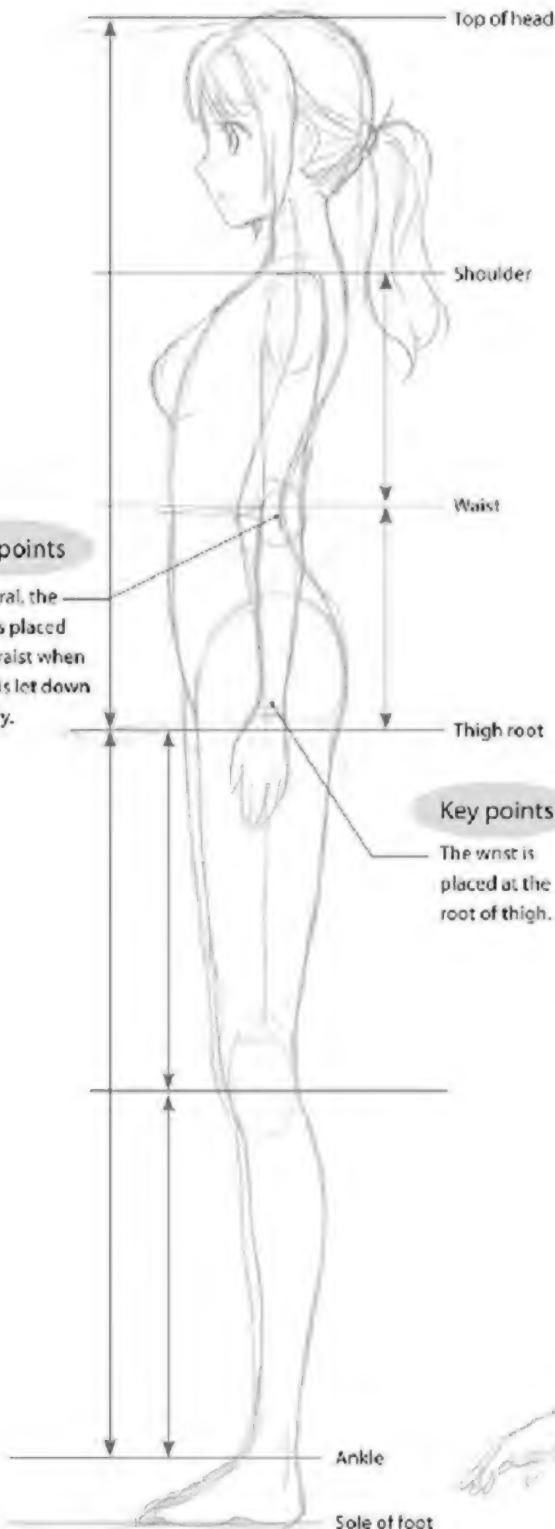
When it comes to drawing similar figures, including their fronts, backs and 3/4 sides, the root of thigh must be placed roughly at 1/2 of the whole body length, no matter what angle is taken. Figures portrayed in this way will leave a sense of stability.

How shall we fix the position of thigh root, if we do not draw the whole body? We must consider the proportion of head and body at this time.

In brief, we must first decide the position of thigh root. After that, the 1/2 position of the trunk will be the waist. In this manner, we will draw an overall balanced half-length portrait.

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Rule of head-and-body proportion

The head-and-body proportion is a measure to fix the full body length of a figure on the basis of head length.

Count the number of heads to decide the head-and-body proportion

Count body with head skeleton in principle

Count from here.

1
2
3
4
5
6
7
8
9

The length of skull is two times the distance from lower jaw to eyes.

The thickness of hair is excluded.

One head length

In this way, we count the length of the figure's body with the head as unit.

Count with approximate number of heads

1
2
3
4
5
6
7
8
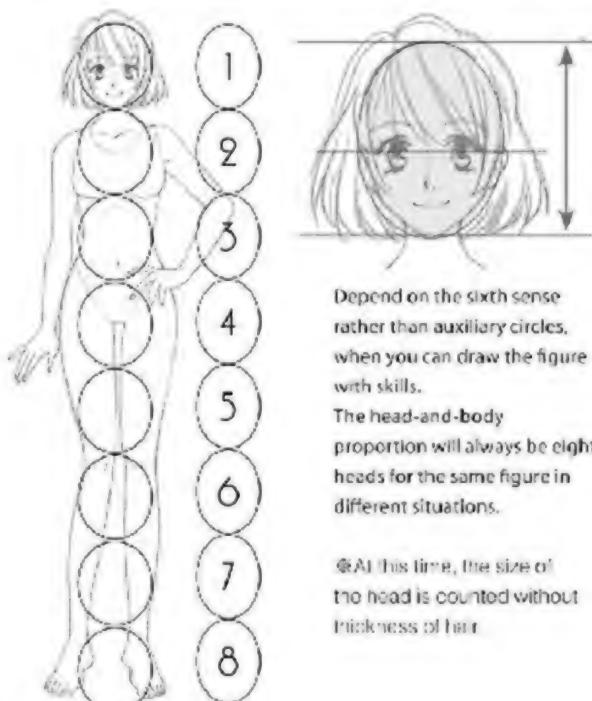
Depend on the sixth sense rather than auxiliary circles, when you can draw the figure with skills.

The head-and-body proportion will always be eight heads for the same figure in different situations.

@At this time, the size of the head is counted without thickness of hair.

There are two methods to count where feet end. We may choose either one according to our habits.

If we count with the center of foot (foot arch) as the benchmark, the length of body will be 8.6 heads.

If we count with toes as the benchmark, the length of body will be 9 heads.

To grasp the relations of the whole and parts, we will count with the head as a benchmark

Apply the method in actual drawing

The position of chest (bottom of chest) is two heads from the top.

The position of waist is 2.5 heads from the top.

The position of thigh root is 3.5 heads from the top.
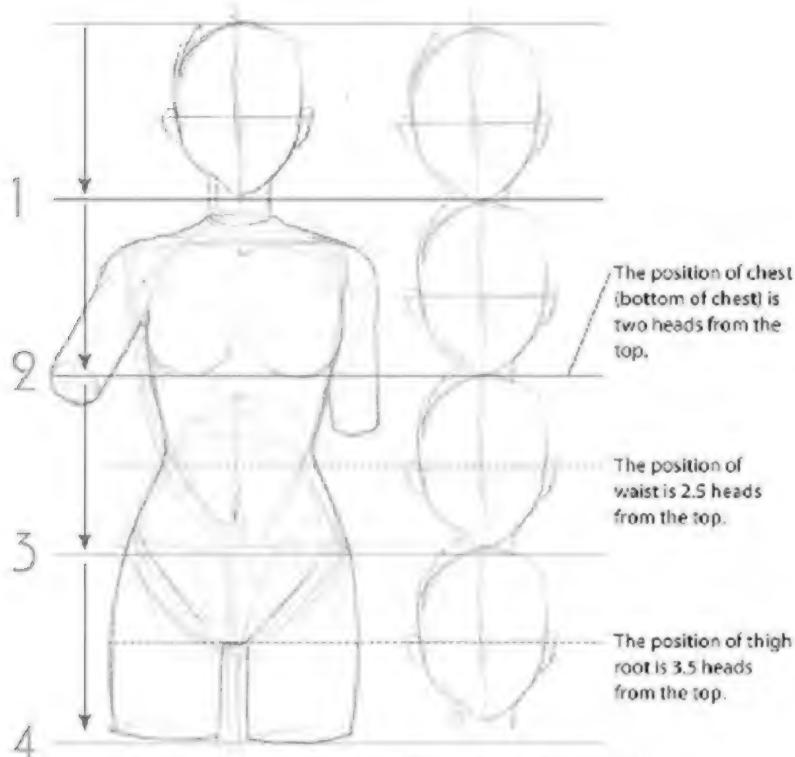
In drawing a figure, we fix the positions of all parts by using one head, half a head, and a quarter of a head as the length unit. It is unnecessary to locate them so precisely. It will do when we take the length of head as the unit. We don't have to precisely measure it. It is good to find out the positions so as to basically keep balance.
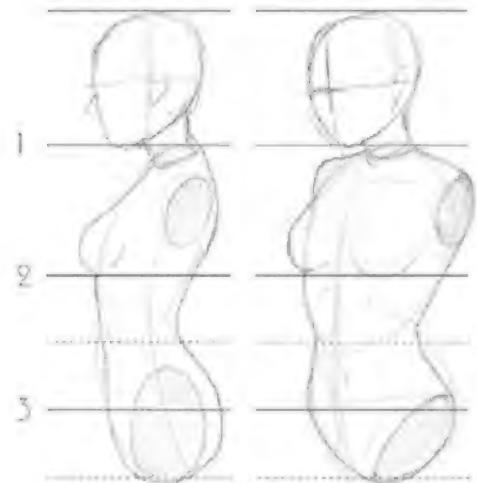
We may also apply the head-and-body proportion rule to draw the front, side and 3/4 side pictures. When drawing the figure at different angles, we will create "multiple figures" for the same object, if we change the head-and-body proportion (change the positions of the chest, waist, and thigh root).

● The length of hair is excluded from the length of head

Head size

Body

If the length of hair is counted into the length of head, we might meet such a figure:

Head 4.8cm
Body 1.8cm
Full body length 6.6cm

If the hair length is counted as a part of the head length, we will measure the body length with the head-and-body proportion when meeting such a figure. It would be ridiculous to have full body length ÷ head length —6.6÷4.8=1.4 headed body.

Actually, this is a 3-headed body figure.

The shape with drooping hair.

● The head-and-body proportion is counted on the basis of hair-free head.

Fix the positions of the head and thigh root and the balance of the full body, just like making a doll.

If we leave out the overall shape and focus only on the size and length of parts, we will make a twisted doll.

Change the scale with the head-and-body proportion

Difference between 7-headed body and 8-headed body

7-headed body figure　　　**8-headed body figure**　　　**8-headed body figure**

1

2

3

4

5

Higher root thigh position

When the positions of thigh roots are identical, the head-and-body proportions of a similar figure will be basically the same.

6

7

8
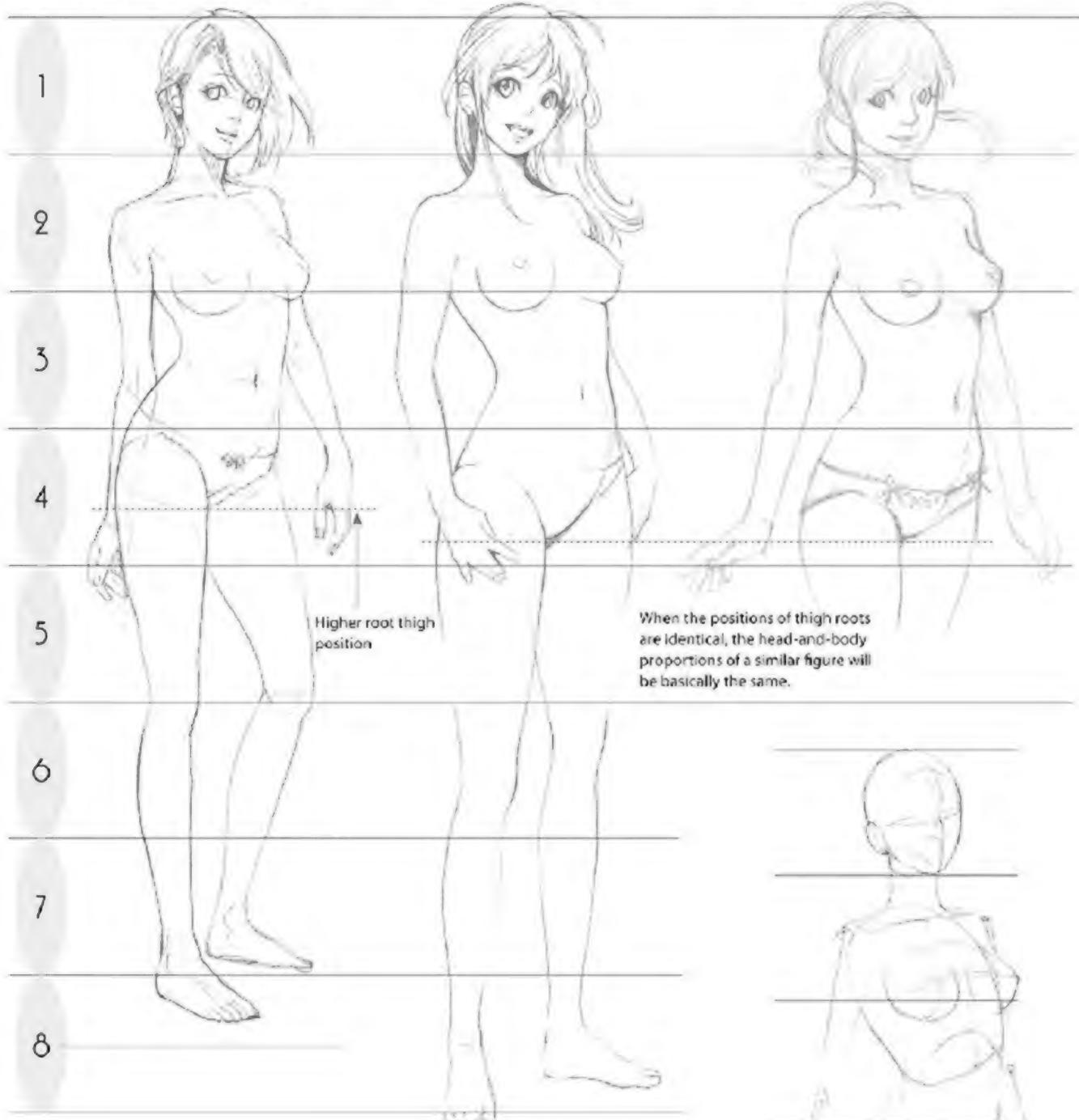
Half-length portraits are normally drawn by fixing the position of thigh root first, so as to balance the whole body.

Example of different figures with same 8-headed body proportion

1

2

3

4

5

6

7

8

Lower waist position

Higher waist position

Long

Short
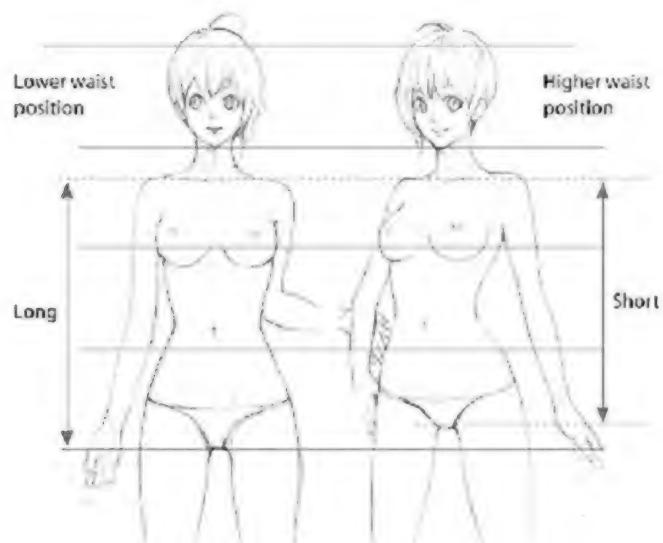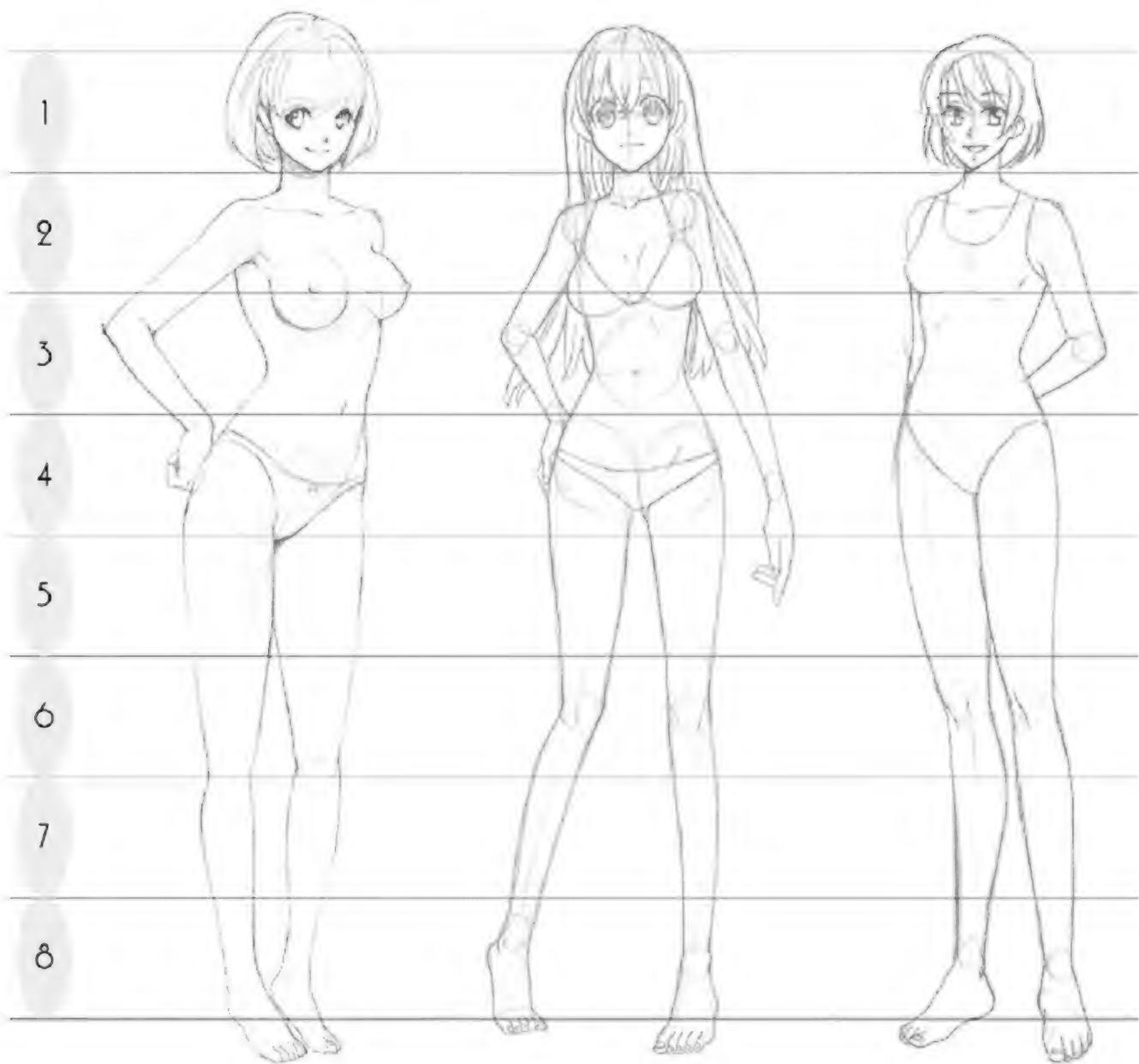
● Change in proportions

Length of neck
Position of chest
Position of thigh root (the higher the thigh root is, the longer the figure's legs will be)

※Changes in hair quantity will create different impressions of the figures.

Typical head-and-body proportions

Ordinary figure and Q-version figure

Full length proportion of ordinary figures

9-headed body   8-headed body   7-headed body   6-headed body

1
2
3
4
5
6
7
8
9

Body proportion of primary school pupils

Body proportion of high school students

Body proportion of adults and young people (older than 18 years old)

Body proportion of adults
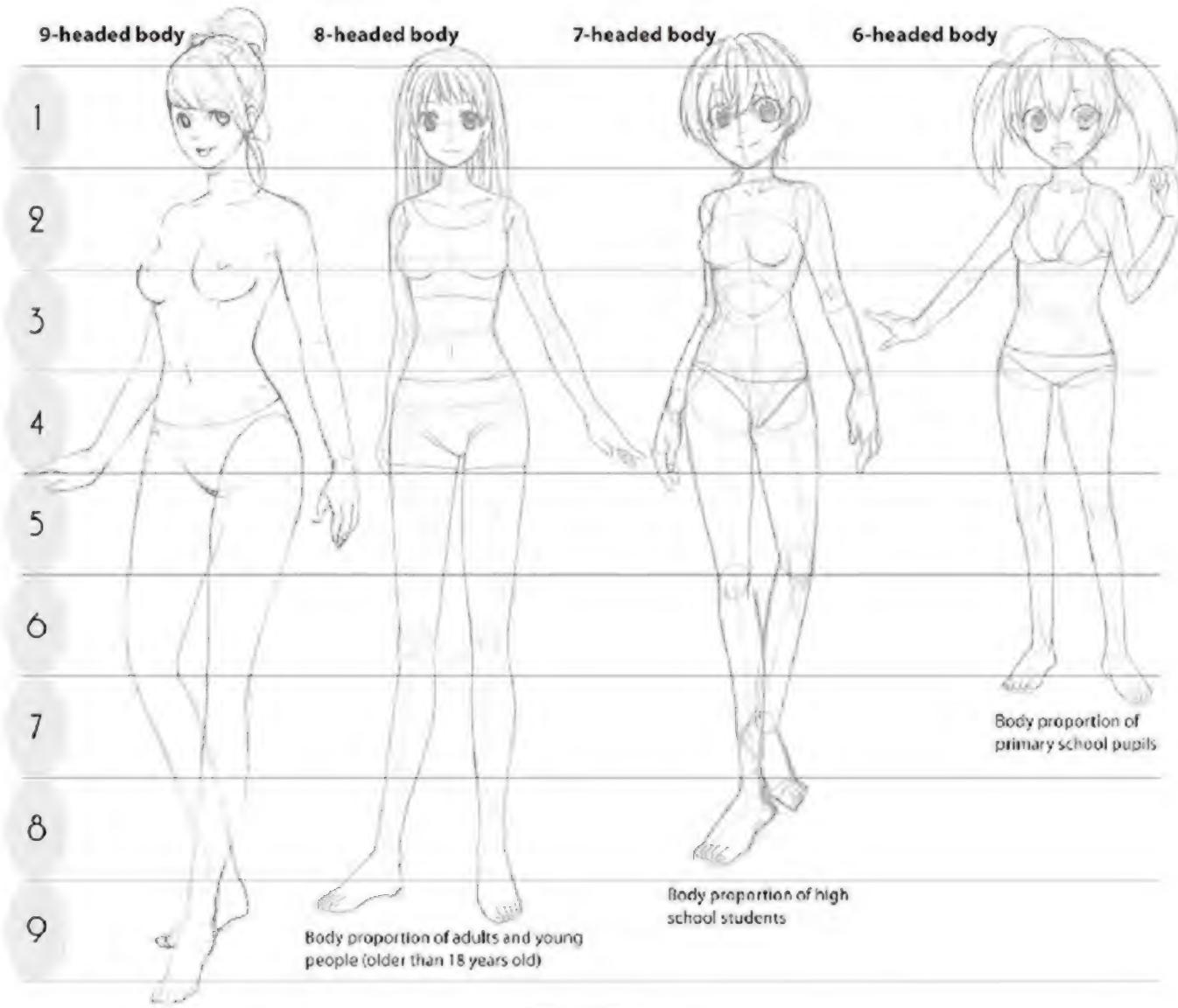
Strictly speaking, the proportion of head and body is shown as the above chart. But each painter will have his own features in drawing. So, it is all right to roughly decide the head and body proportion with the painter's own head size in drawing.

Take the example of the above 7-headed body figure. Draw the figure according to the painter's own standard, and it is likely to end in a 6-headed body proportion.

We apply this "head-and-body" mode of thinking to balance "head, trunk, body and legs" in line with our own ideas before setting about with the work.

5-headed body

1
2
3
4
5

Body proportion of primary school pupils

4-headed body

Body proportion of pupils – children

Head-and-body proportion for Q-version figures

3-headed body

With hair added, the head will look larger to make the figure lovelier.

2-headed body

Body proportion of exaggerated cartoons
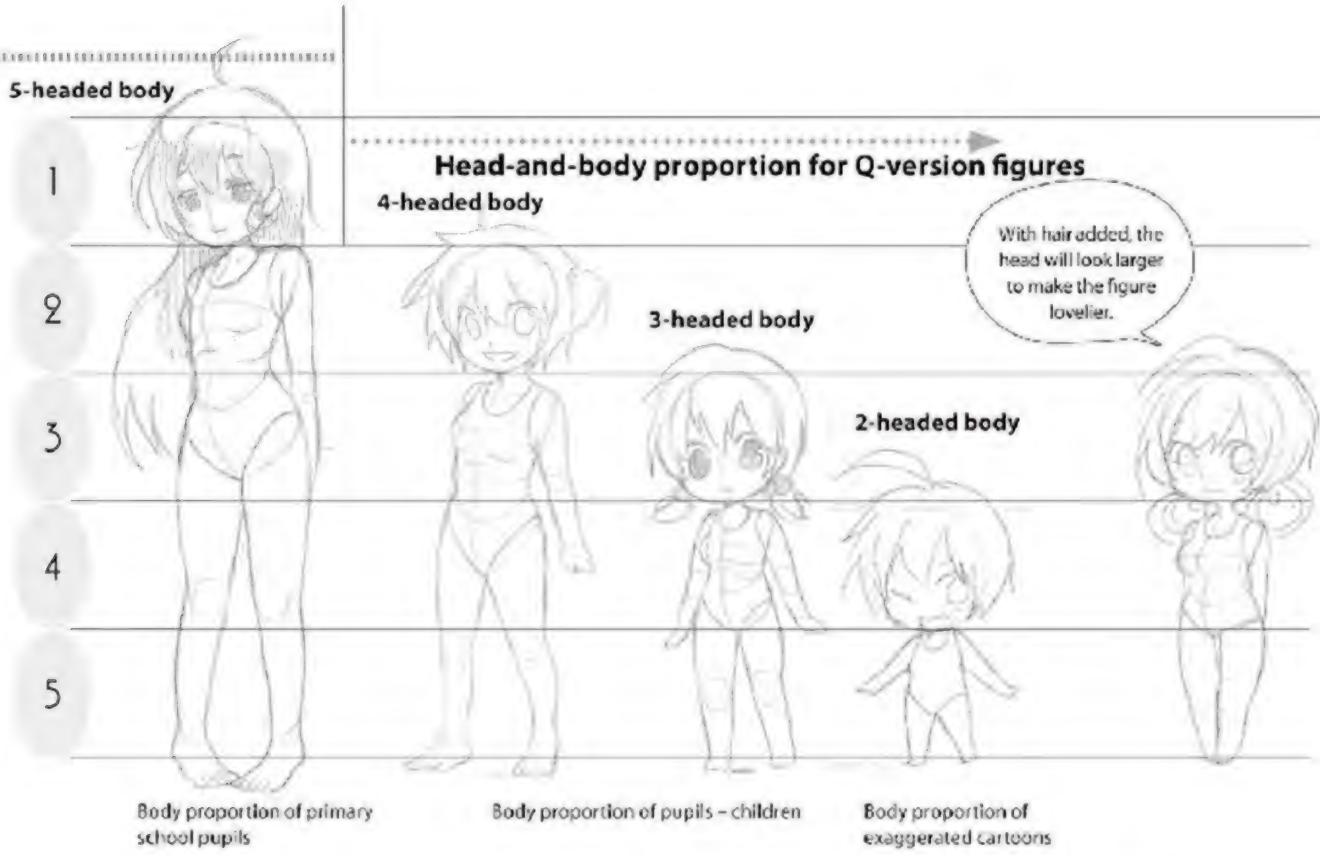
5-headed body proportion change

Type of leg length. Popular technique to draw high school student figure

Type of super-long legs

4-headed body proportion change

Long body

Long legs

11-headed body

Figures with big head-and-body proportions. If we draw the hair fuller, the figure's head will look fairly big, something like 7-headed body or 8-headed body.

Realizing stereoscopic sense in drawing head and body

When drawing head and body, we must realize that the perspective head-and-body proportion is a transformation method to put three-dimensional figures on a flat surface. It is easy to draw a figure planar. So, we must always be aware of the stereoscopic feature in drawing the figure.
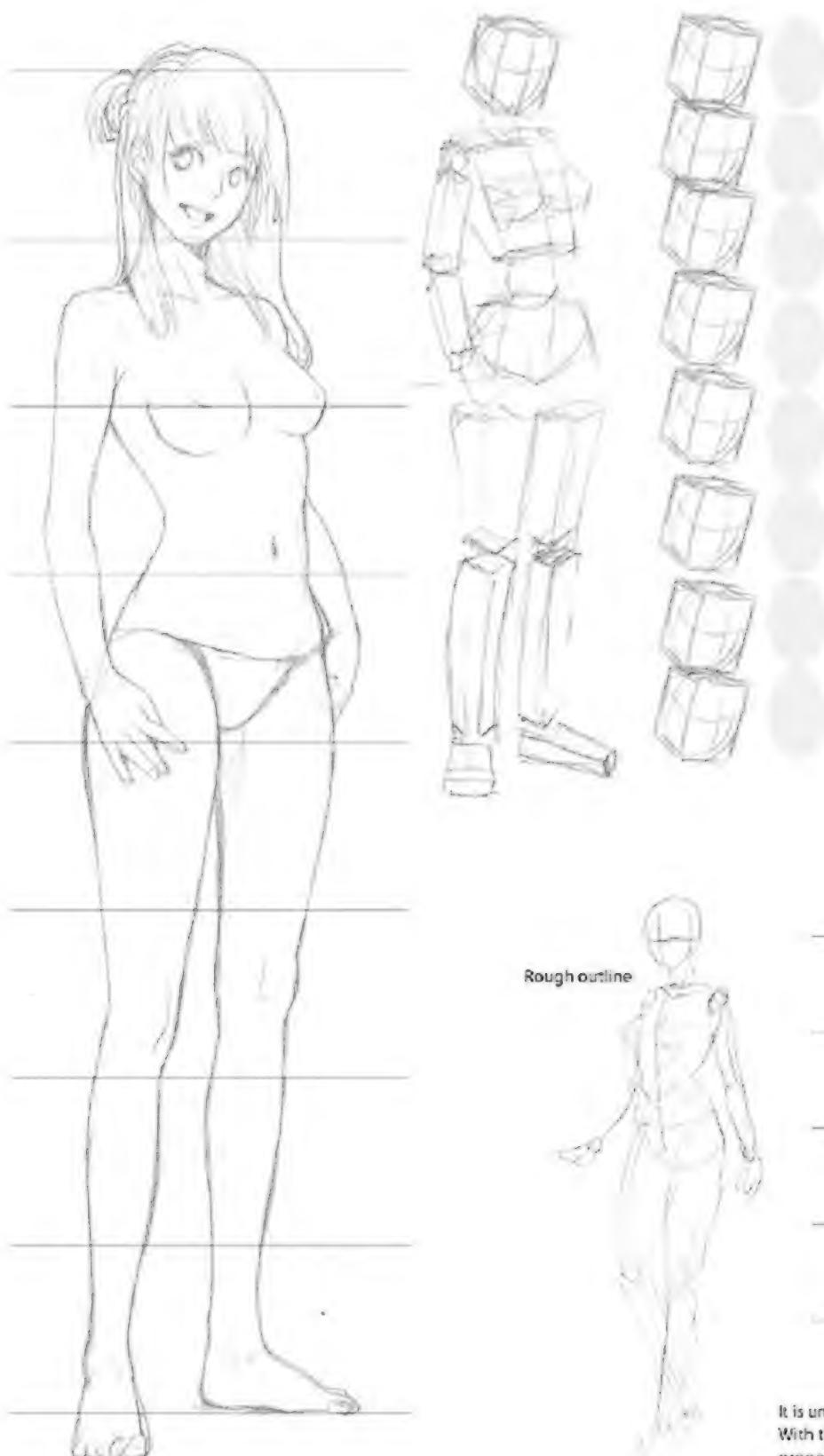
Rough outline

Take head and body as geometric, and we will draw a reference line of head-and-body proportion as such.

Though there might be slight deviations, it is quite all right to take it as a rough benchmark.

It is unnecessary to draw the geometry so accurately. With the geometry, we can basically grasp the proportions of the figure. Though there might be some deviations in drawing the figure with the head-and-body proportion, we need such a benchmark.

Why are there decimal points in the head-and-body proportion

6.2 headed body

23.4mm

146.7mm

When drawing a cartoon or illustration, for example a 6-headed body figure, we will find out after precise measurement ....

This figure has a head-and-body proportion equaling 146.7÷23.4, which is about 6.2-headed body.

We might have decimal points in an head-and-body proportions, because in an actual drawing:
1. We count the skull a bit larger;
2. We take the circle as rough standard, and the head-and-body proportion is roughly counted.
Therefore, our consciousness is working to control the result in the rough counting.

We will always have decimal points, if we count the head-and-body proportion of the figures we draw. For example, we might have a 6.2 head-and-body proportion. How do we get the 0.2 decimal point? Each painter has his own characteristics in drawing figures. Professional painters will enlarge or narrow facial features on the basis of their assumption, and needs of scenes and plots. They subconsciously or intentionally change the head-and-body proportions. This is a technique of professionals. Therefore, the head-and-body proportion is not fixed.

Controlling the head-and-body proportion consciously means painters have in their mind an absolutely existent fixed head-and-body proportion. This proportion may be changed and applied freely. It is virtually a golden ratio of head and body.

In ordinary drawing, it is unnecessary to count the head-and-body proportion so precisely. But it is better to give it a shot with a fixed proportion in the very beginning to establish the golden head-and-body proportion of the figure.

By understanding the 6-headed and 8-headed body proportions that are different from our own styles, we may have images closer to the golden head-and-body proportions.

Steps to draw figures with the head-and-body proportions

Draw a circle roughly to the size of a head, and take it as the benchmark for the head-and-body proportion in the drawing.

The normal 8-headed body ratio.

Centre line

Shoulder line

Chest line

Bottom chest line (under the chest)

Waist

Pelvis protruding point + thigh root joint position line (pelvis/pelvis line)

Position of knee

①Draw a rough outline. In addition to posture and facial features angles, we must display the head-and-body proportion (roughly how many heads for the body).

②Follow the 1/2 rule. Fix the position of thigh root with four circles from the top.

③Pay close attention to positions of all parts of the body. Grasp the proportions to balance the full body.

Fix the body proportion for the figure you want to draw.

Follow the 1/2 rule to fix the proportion.

Proportion of figure with relatively higher thigh root and waist positions.

1

2

3

2.5

4

The waist is positioned roughly at 2.5 circles from the top. Look to the proportions in the drawing.

Connect the waist and chest with the circle outlines in drawing.

②Draw the details.

③Draw the details of facial features and clothing.

Consult the nude sketches.

Key points   **Separate the body into two major parts to work with.**

Shoulder line

Chest line

The chest block, it's better to keep it parallel

Waist line

Extension of the waist.

The block below the waist, unnecessary to be parallel with the chest.
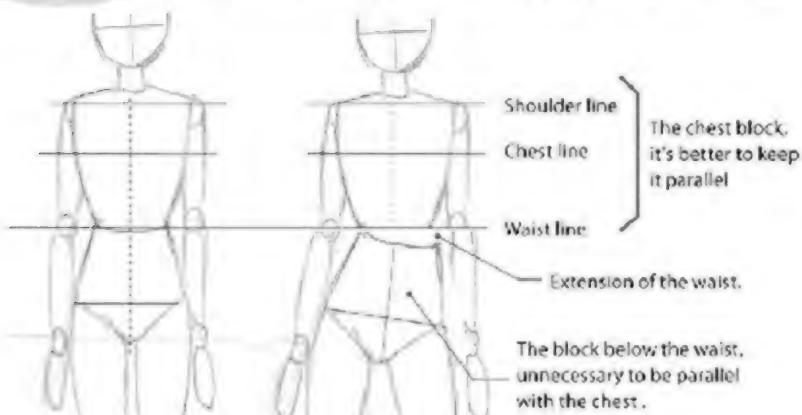
● **The parts that should remain parallel**

· Chest block: shoulder – chest—waist (chest line – bottom chest line ~ waist line)

· Block under the waist: waist line —pelvis line

Adjust impressions of figure styles

Change the length of the legs and arms, and the figure will present different overall impressions.

Difference between 7-headed body and 8-headed body

7-headed body figure
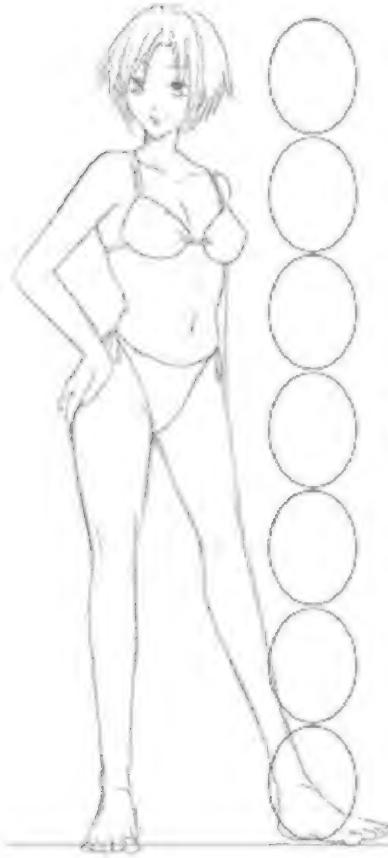
Stand with one-leg support

Turn to 8-headed body
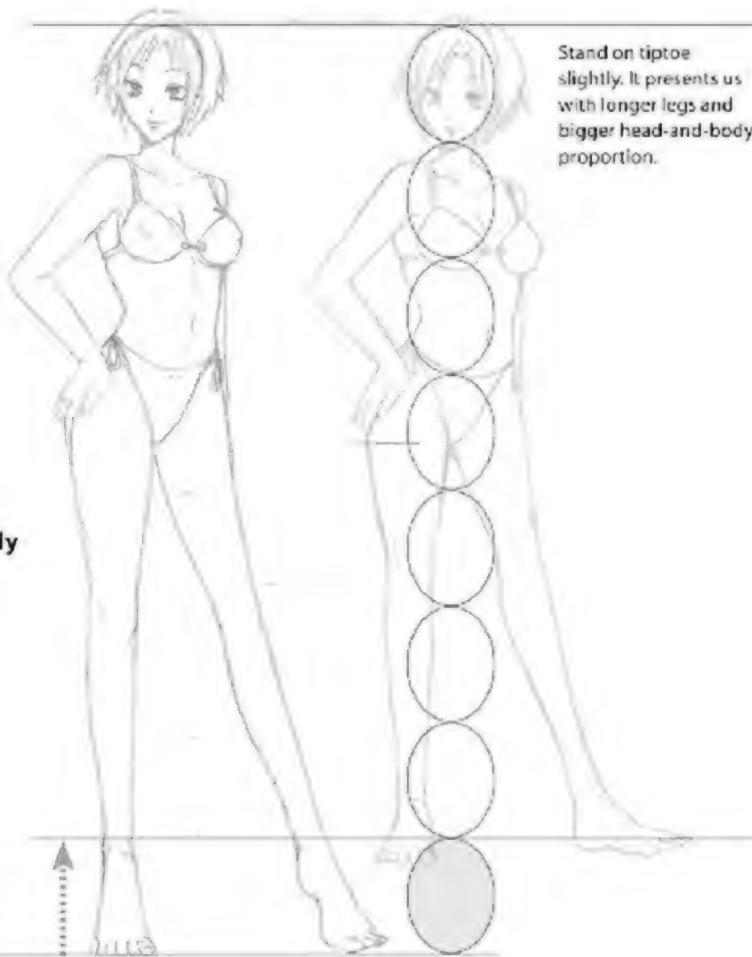
Stand on tiptoe slightly. It presents us with longer legs and bigger head-and-body proportion.
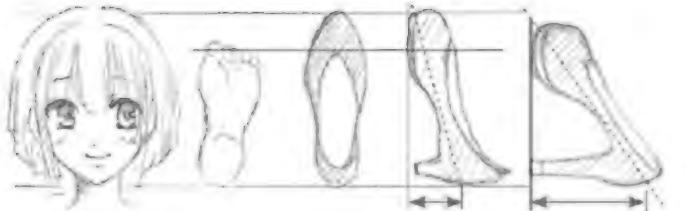
The foot length is a bit shorter than head length. But with shoes, they are basically the same.

To make legs look longer → Increase head-and-body proportion → the head looks smaller and the figure looks prettier. Wearing high-heeled shoes helps lift the heels, to the effect of stretching the legs.

Raise the heels slightly, and the legs look longer.

The 5.5-headed body figure looks like a child.
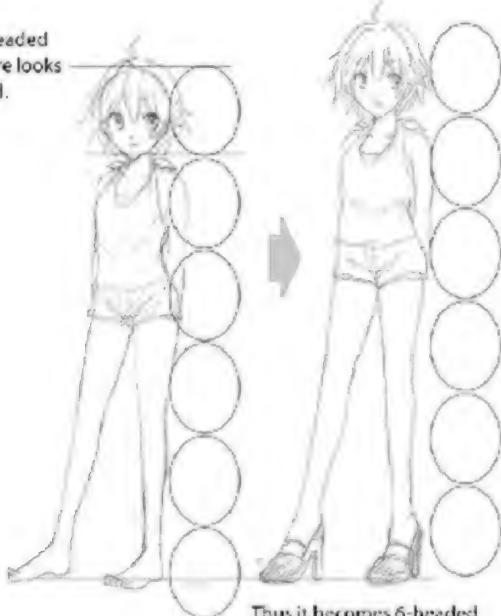
Thus it becomes 6-headed body and looks mature.

Change the length of arms according to the body

Fix the length of arms on the basis of thigh root. Make necessary changes with the length of trunk.

For 8-headed bodies with basically the same height, their trunk and leg length may vary, and the arm length may change, too.

8-headed body
1/2 type (the head-to-trunk length is basically the same with the leg length)

The wrist basically reaches thigh root, and arms of this length will make the figure look balanced in proportion.

1/2

8-headed body
Long-leg type

Short

1/2

Long

● Technique to extend arms

✗ 1/2 type of the 8-headed body, but with longer arms...x

Thigh root

The wrist is pulled lower than the thigh root, making the arm look too long.

○ Long-leg type of the 8-headed body figure...○

Short

Thigh root

1/2

Long

Draw the arms of the long-leg type figure a bit longer, and she remains looking balanced.
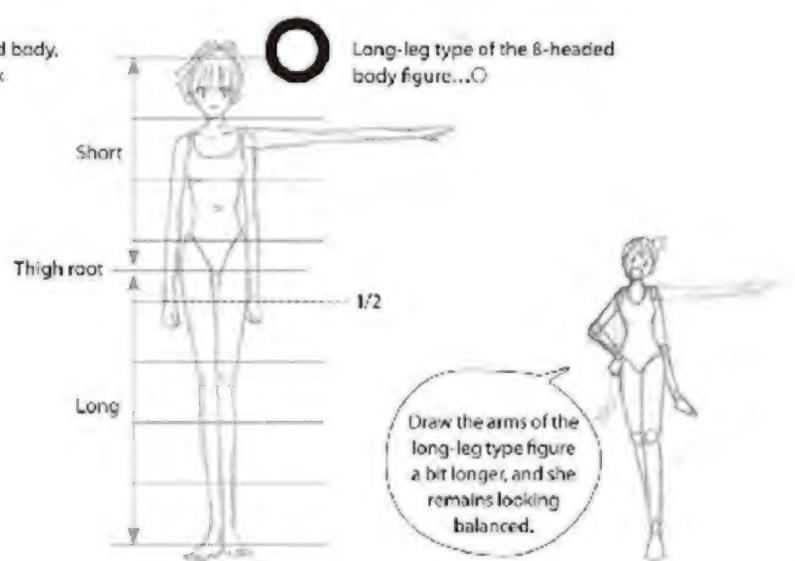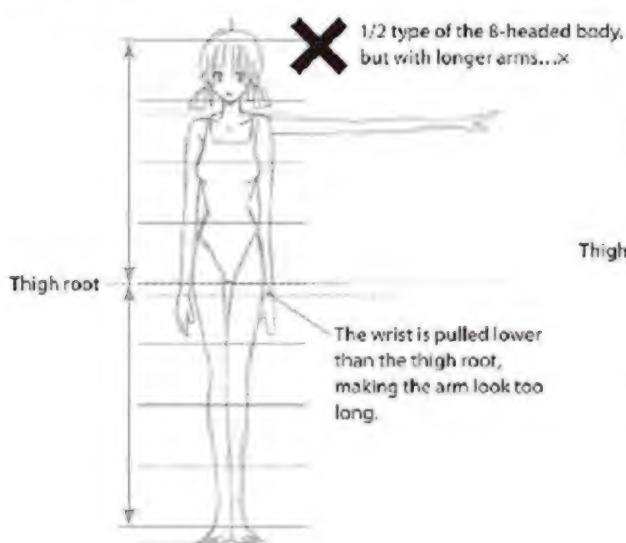
Big transformation of Q-version figures

Fix the thigh root position first when drawing Q-version figures. Then, determine the length of the trunk and legs.

Great change from ordinary figures

Ordinary figure (7-headed body)
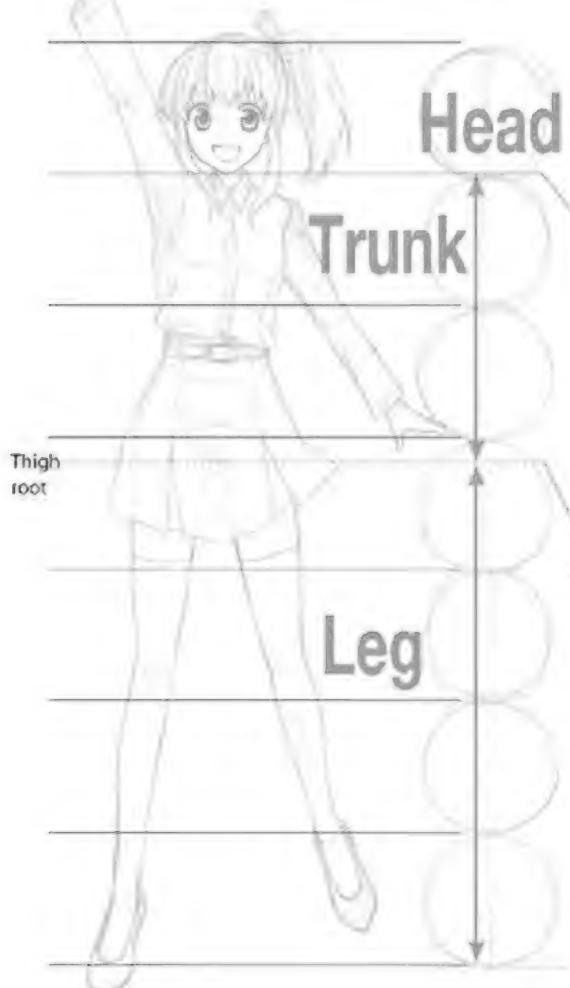
Q-version figure (4-headed body)

Head

Head

Trunk

Trunk

Thigh root

Leg

Trunk

Thigh root

Leg

Leg
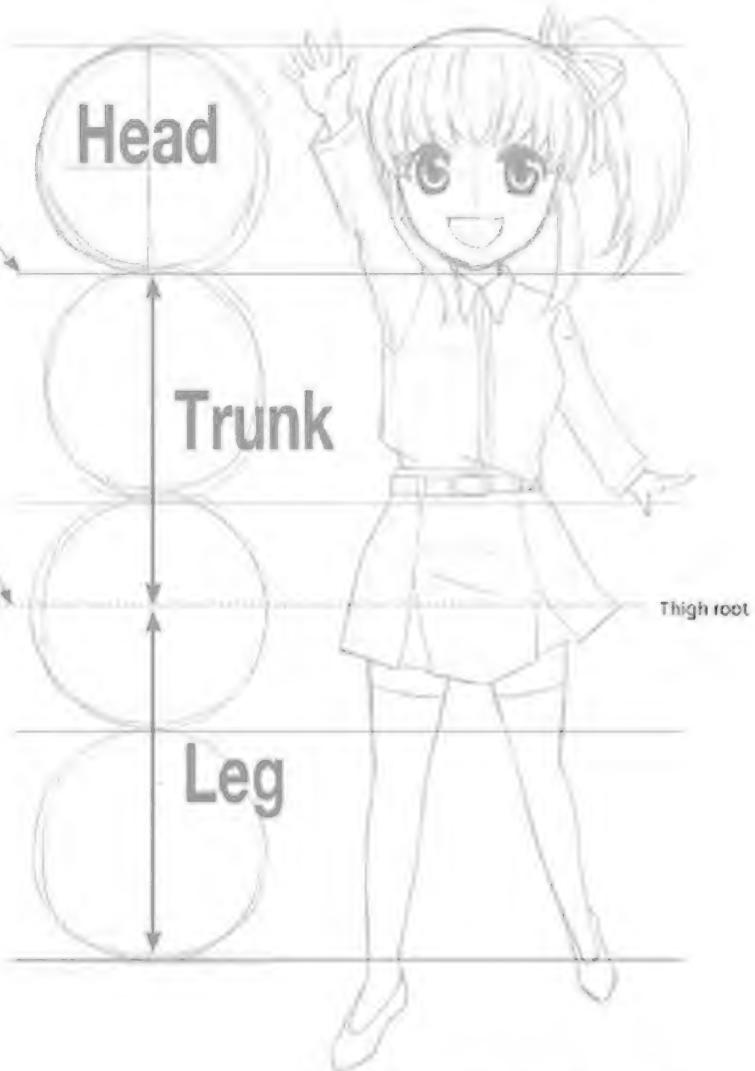
The type with long legs

Thigh root position and thickness of arms and legs are not fixed. We may draw them freely to highlight personal features.

The secret to draw Q-version figures is to make the neck a bit thinner.

When drawing a 4-headed body figure, the head remains one head long, and the remaining three heads length is reserved for the trunk and legs.

2.5-headed body

3-headed body

30

● Procedures to draw figure

① ② ③ ④ ⑤

Waist

Take the shoulder height as the benchmark. If the shoulder line is too low, the neck will look long.

Thigh root

Centre line

Complete

Draw four circle outlines for 4-headed body figure. Draw the centre line since the figure is standing.

Fix the thigh root position, and then settle the proportion for the full body.

Decorate the rough sketch for the trunk, and draw the arm and leg forms.

Draw the overall contour lines. If we can draw them skillfully, we may directly draw facial features and clothes on the figures in step three.

Technique to draw 2-headed body

① ② ③

Omit the neck.

Draw the trunk a bit longer.

④

Draw two circles.

Having fixed the thigh root, we may proceed with drawing the trunk and limbs. Shorten the legs of the figure with smaller head-and-body proportion, and she will look lovelier.

Draw the hair, facial features and clothes.

Complete
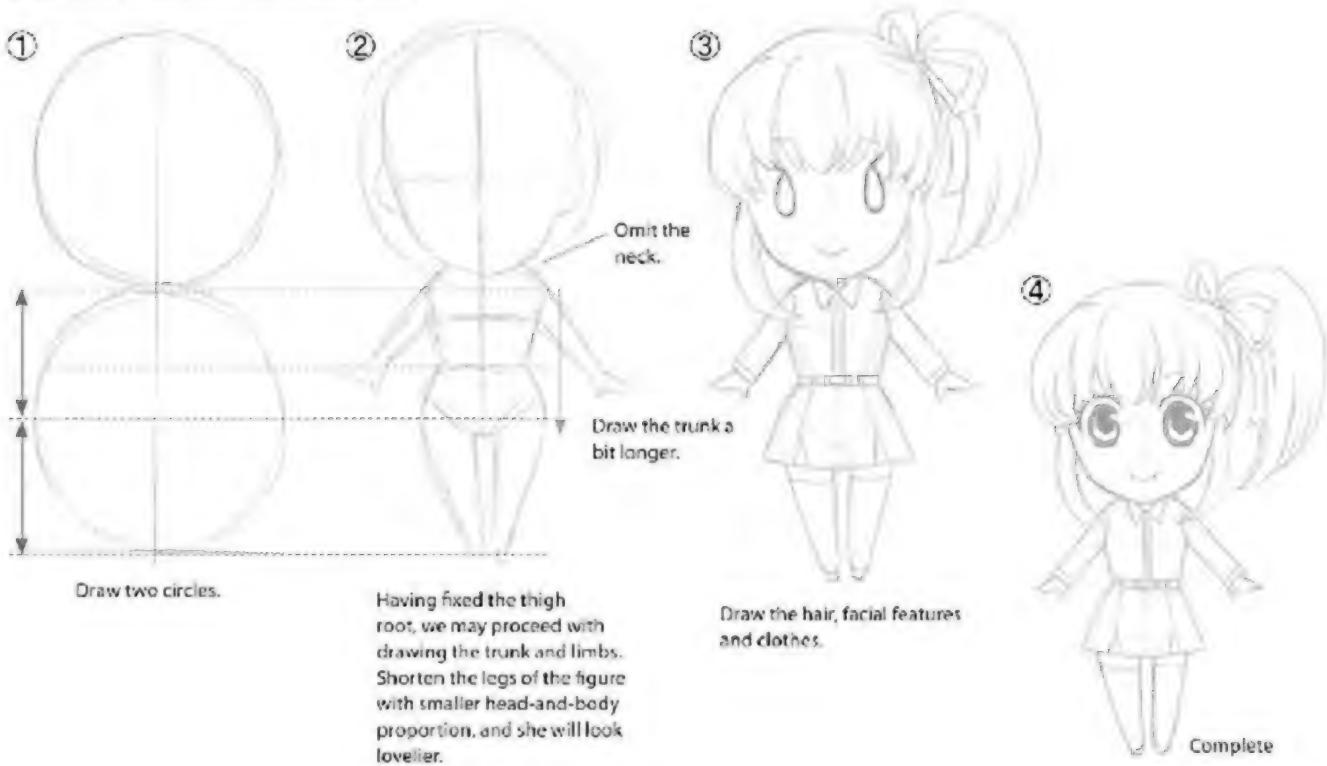
Child and adult

Proportion of the body

7-headed body: senior high school students and older.

5-headed body: will look like senior primary school pupils and junior high school students

Child

Adult

4-headed body: will look like six-to-ten year-old child

3-headed body, will look like three to five year-old child
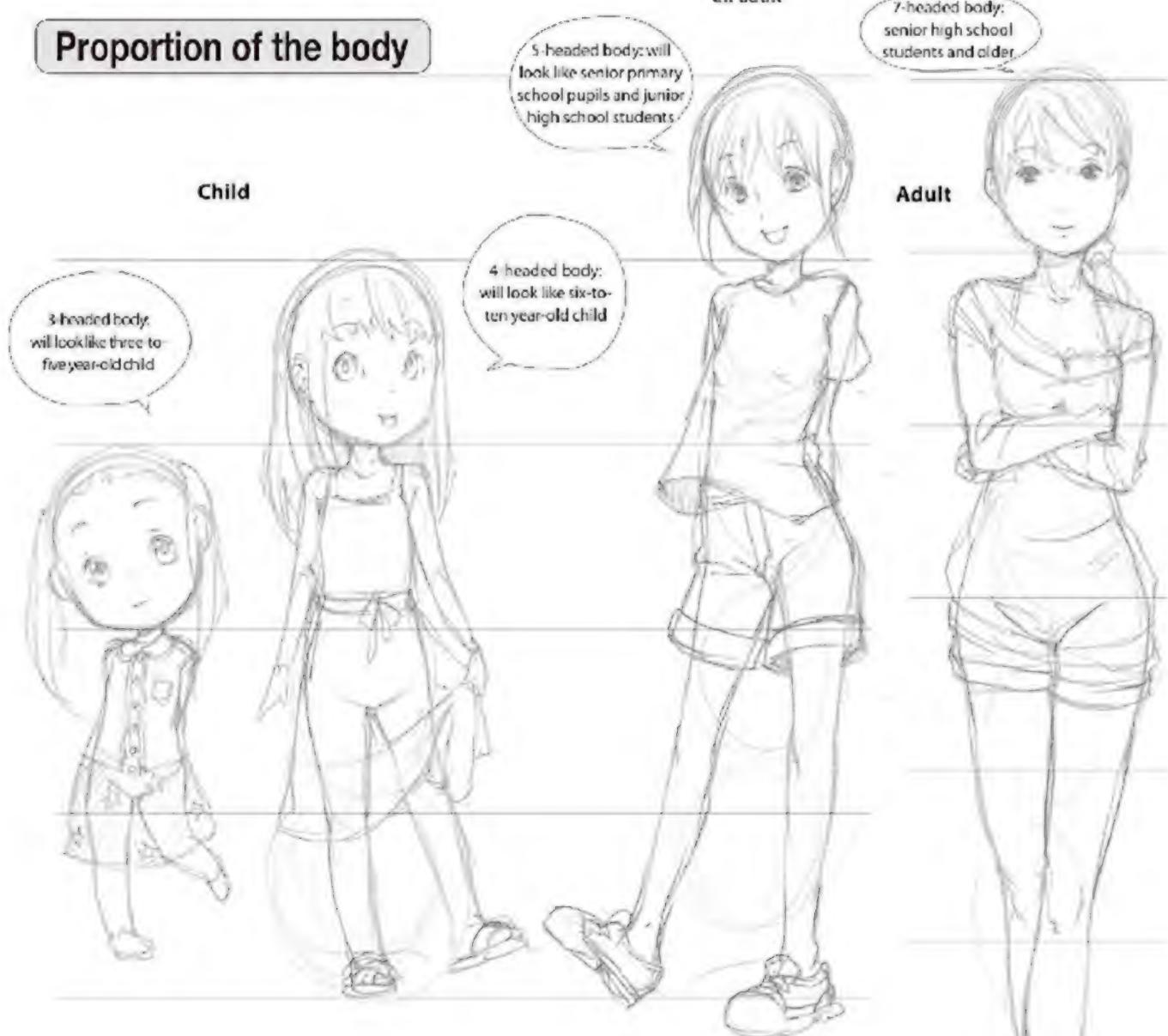
Proportion of the face

Lower eye line

Mouth

Short

Long
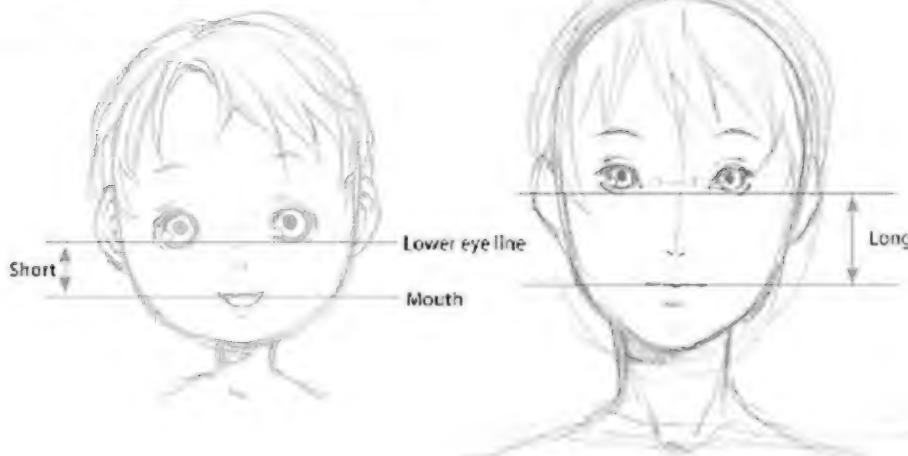
The key point is to distinguish the distance between eyes and mouth.

Grasp the features – figures looking like child and adult

Girls start to look mature at about 12 years old.

Draw the head a bit smaller (with fewer hairs)

Figure looking like an adult

Proportion of an adult, but with relatively larger eyes. Try to make the figure look like a child and then an adult.

Draw the neck a bit thicker.

Draw the shoulder a bit wider.

Draw the collar bone explicitly

Figure looking like a child

The head must look a bit bigger (draw more hair)

The neck should be thinner.

The shoulder should be narrower.

The collar bones are not obvious.

With a thin neck, narrow shoulder and big head, the figure looks like a young girl.

Draw the body along with facial features

Display the overall features of the figure with head-and-body proportion. Distinguish an adult and child with facial features proportion. The body will also be drawn with proportion following facial features.

Draw a child

Facial features of a child

○

Roughly 4-headed body (3.8-headed body precisely), looking like a child at first glance.

✗

8-headed body, looking strange as it is not for a child or adult.

Extend the distance a bit from the lower eye line to mouth, and the figure looks like an adult. In this way, we will keep the overall balance and create an image of a lovely girl.

Draw the features of Loli
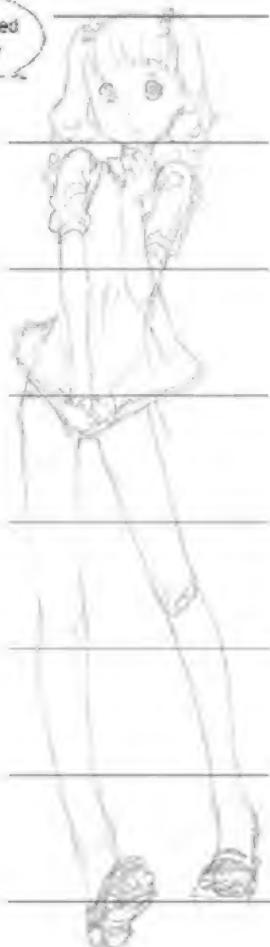
7-headed body

Facial features
of an adult

About 3.5-headed
body, looking like a
Q-version figure.

About 9-headed
body, looking like an
adult.

Practice in drawing ~ Drawing techniques of Kazuaki Morita ~

7-headed body

What are the drawing techniques that stress overall impressions? Beginners should first grasp the head-and-body proportion principle. Measure the body proportion with circle outline, and then proceed to draw the figure.

But professional painters will not measure the proportion one by one in the process of drawing. They have cultivated the feeling in place of actual measuring with experiences of drawing tens of thousands of paintings. Here, let's listen to master Kazuaki Morita, a cartoon designer, supervisor, and figure designer, to explain how he designs figures.

We must be aware that we should not only keep a watchful eye on how the professionals draw figures step by step. It is also unwise for beginners to follow the example of professionals by omitting many steps, if they expect to improve their drawing skills. I expect we can see what steps professionals have left out in their drawings. This will help us a lot to improve our drawing skills. Planning it well before drawing is the first step to success.

(Interviewed by Hikaru Hayashi)

01 Think about the overall form of the figure – Start with the facial features-head outlines

①Draw the full body of the figure on a piece of paper. First, let's decide the size of the figure's head, if we want to draw a 7-headed body. We must think about it clearly first, even if we draw only a circle for head outline.

②Draw an oval without any details. Then, we must think about the proportions and angles for the facial features on the basis of this oval.

About Kazuaki Morita

Kazuaki Morita was born in Shizuoka Prefecture, Japan. He has rich experiences in drawing cartoons. He is a very famous cartoon designer, supervisor, and figure designer, in the Japanese cartoon circle (consult P192).

③Fix the orientation and proportion of facial features with cross curves. Before starting to draw, we must think closely about the angle of the figure, so as to have a way of drawing the figure.

Draw the body outline – draw the figure by imagining the outlines for the head structure and sheltered body.

④Draw the outline from the upper part of the body to the waist

⑤Draw the outline of the thigh root, and then draw the pelvis outline downward from the waist.

⑥Imagine the stand-up posture of the figure. Draw the left leg first, as if along an invisible draft. Then, go on to draw the right leg.

⑦Adjust the outlines of the trunk and legs. Draw the outline of arms starting from the shoulder. Here, we must sketch the contour of shoulder with armor.

⑧Pay attention to the posture of arms and draw the armored outline. In drawing, we must take into consideration armor-wrapped shoulders, and the lines for elbows, wrists and arms.

02 Facial features draft – it is enough to draw out the expression of the figure in this stage featuring head outlines

Rough outline of hair. First, think about the hair quantity and length, and draw along the outside of the figure's head contour line.
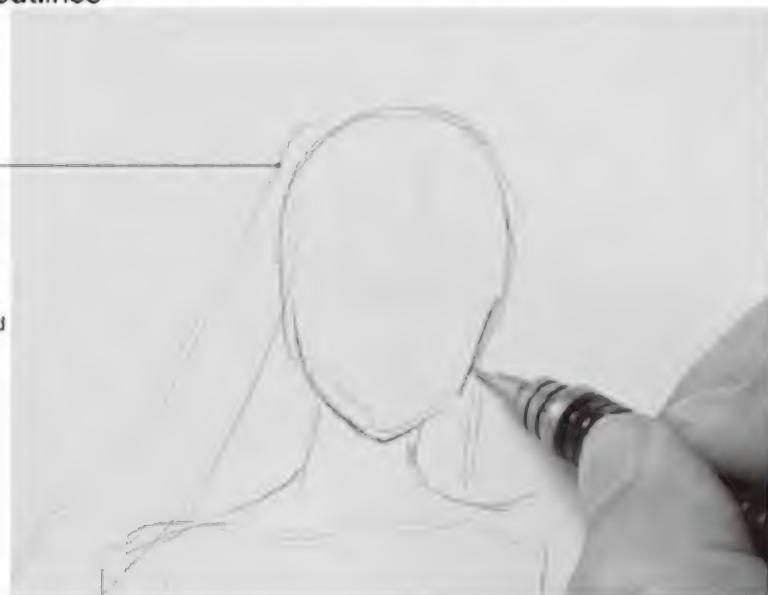
①Draw the contour line according to the formulated hairstyle beforehand.

②Draw the eyes.

③Draw the pupils of the eyes.

④When drawing the hair, we must consider the growth line and head curve to draft the hairline profile.

Overall outline of communicator components. Trace out a rough form according to the sizes of facial features and eyes.

⑤Draw the ears. Now, we have the general facial features.

03 From trunk to feet – with explicit contour profile

①Draw the outline of necktie on the clothes.

②Draw the contour line of the chest. Draw the lower chest line first.

③Fix the precise position of the chest with the bra. Then, draw up the centre line (the centre line of clothes is also the centre joint of clothes).

The lines will change from here. This is called the key drawing stage in cartoon creation.

④Trace out with the contour line of the trunk first.

⑤Trace out the lines for the pelvis.

⑥Trace out the lines for leg roots.

Trace out the lines for legs, in the order from the inner side to the outer side.

⑦Draw the lines for the left leg first, and then proceed to the knee.

⑧Decorate the contour line and then trace out the external line.

⑨It is the same pattern to draw the part from the knee to foot. Complete the lines for one leg first.
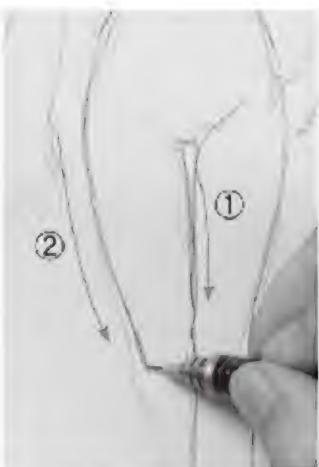
⑧Draw the lines for the right leg. Remember to harmonize the thickness with the left leg in drawing.

04 Draw up the forms of chest, waist, arms and hands, and details of clothes

①Draw up the forms of chest, waist and abdomen, and details of clothes.

②Draw up the lines of leg roots clearly.

③Draw up the contour lines of clothes sleeves.

Draw up the hands exposed from the sleeves. We will not be able to describe the structures of arms and wrists, if we are unclear about them.

05 Draw up the facial features outline realistically and define the external features of armor

①Polish the hair properly to more explicitly display your imagination. Then, fix the contour line for the facial features.

②Draw up the details from collar and necktie.
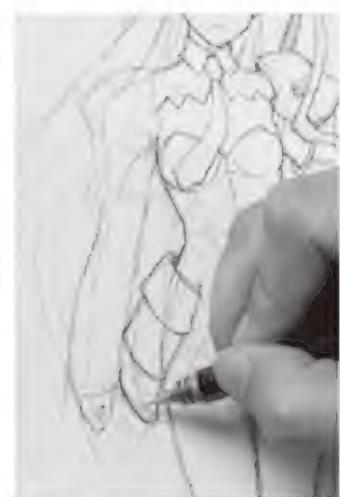
③Continue to draw up external features with shoulder and waist armors.

06 Come to a conclusion

41

07 Draw details of legs and armor

①Modify the leg lines again, and draw up the boots.

②Basically complete armors for the left arm, with complex stereoscopic impression, and details in the waist.

08 Draw up head details

Refine the head communication equipment and hair.

To prevent the hand from rubbing the lines dirty, we may put a piece of paper under our hand in drawing.

09 Go on with details – complete 80 percent of rough sketch

①Draw up detailed features of right shoulder.

②Draw up hair threads visible behind the body (expressed in shadows) to define contexts.

③Draw up details of sleeves.

④Draw up pleated skirt.

⑤Draw up details of boots.

⑥Complete the figure except for facial features.

10 Complete details for facial features and hair

①Move paper directions along with the directions and features of the drawn lines, so as to make it easier to draw the figure.

②Draw the contour lines of eyes explicitly.

③Draw up the details of the eyebrows and pupils.

④Balance the right and left. Draw up the external outline of pupils.

⑤Polish the lines for hair threads.

⑥Draw up shadows at the throat.

⑦Modify the touches for the inner side to contrast light and shade.

Key points

● Remember to tidy the lines for the pupils to make them clear and definite.

Questions and answers in interview with master Kazuaki Morita

Hikaru Hayashi: What is the key element to fix head-and-body proportion?

Kazuaki Morita: Head-and-body proportion of course. We will basically fix it when drawing the figure from head to legs. Sometimes, we will settle it down by drawing only the head and shoulder width for a 5-headed body figure. On other occasions, we may draw the hands and feet of the figure larger, and the head-and-body proportion will impress us smaller.

In a word, practice more and we will become skilled at it.

Hikaru Hayashi: How can we be skilled at it?

Kazuaki Morita: In the very beginning, if we draw the head, we must know where to put the neck to join the trunk, and where to put the chest, waist and thigh roots. We must draw more to be acquainted with them.

Once we are skilled at it, the proportion of the upper body will not change. We may modify the positions of thigh roots, knees and legs later.

Hikaru Hayashi: What are the main problems with drawing overlooking angle and all postures of the figure (such as the posture in the right chart)?

Kazuaki Morita: The shoulders and thigh roots are crucial. In other words, we must be aware of the parts even if we cannot see them.

Hikaru Hayashi: Why do we have decimal points when measuring the actual head-and-body proportion of the figure?

Kazuaki Morita: We must adjust the head-and-body proportion of the figure according to actual situations.

For example, we may adopt the overlooking angle and draw the face a bit larger if we want to create a lovely environment. We may draw up the figure with our own imagination.

We may properly "extend" or "narrow" the figure on the basis of the benchmarks according to actual situations. Modified in this way, the painted figure will naturally show decimal points in the head-and-body proportion.

Take the example of a 8-headed body figure. It may be modified into a 6-headed body figure when the whole work permits. It must be analyzed according to concrete situations. We will draw up the most impressive head-and-body proportions in line with the scenes and demands.

This is why we have decimal points in the head-and-body proportion.

Hikaru Hayashi: The benchmark you said must be a fixed head-and-body proportion in our mind that is cultivated after practices and may be modified freely.

Thank you for your time and attention for the interview.

Chapter Two
Draw up facial features

Techniques to draw up facial features

Facial features are the front of the head. The components of eyes, nose, mouth and ears will make the head into three dimensions. If we display the image in two-dimensional paper the components must be arranged in proportions. We must follow the proportions relations in drawing up facial features.

Proportion of facial features

Front

The distance between the two eyes is one-eye wide.

Horizontal range of eyes

Forehead (brain gate)

Curve turned to the side or back. It has some width when seen in the front.

Scalp. Skull contour line.

Hair line. Growth line of hair, which is the benchmark to fix the size of forehead.

Hair. Keep some distance from the scalp, bigger than the head for a circle to show the thickness of hair.

Eyebrows which are modified are depicted, a bit longer than the width of eye.

Position of eyebrows.

1/2

Position of eyes, with the center of head as benchmark.

Position of ears. The size of ears is normally the distance from the eyebrows to the tip of nose.

Tip of nose

1/2

Draw up the fundamental head contour profile for facial features

1/2

1/2

To balance the eyes and nose, we may draw up a draft like this in the beginning, so as to fix the rough outline.

Centre line of the face (longitudinal centre line).

Lateral centre line. Separate the longitudinal centre line into two equal parts, so as to find out the longitudinal center.
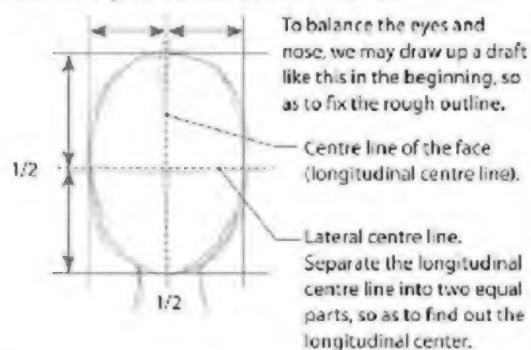
Steps to draw up contour lines

① ① ② ③

Draw up a circle. If we are to draw a very large face, we may do as in ① to connect two lines.

Draw up the lateral centre line.

Draw up the longitudinal centre line.
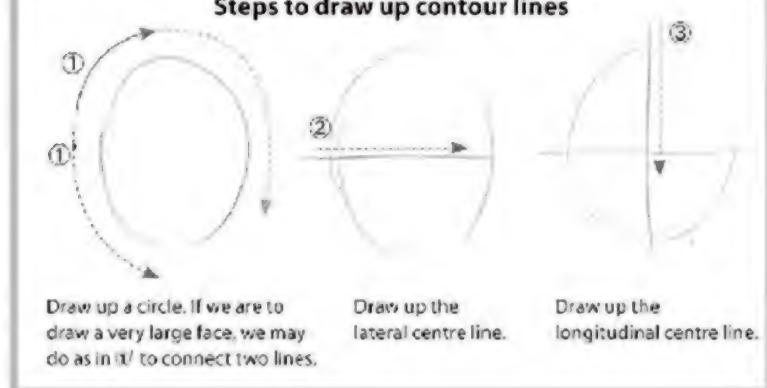
Rough sketch of facial features. Relations of lateral centre line and the eyes
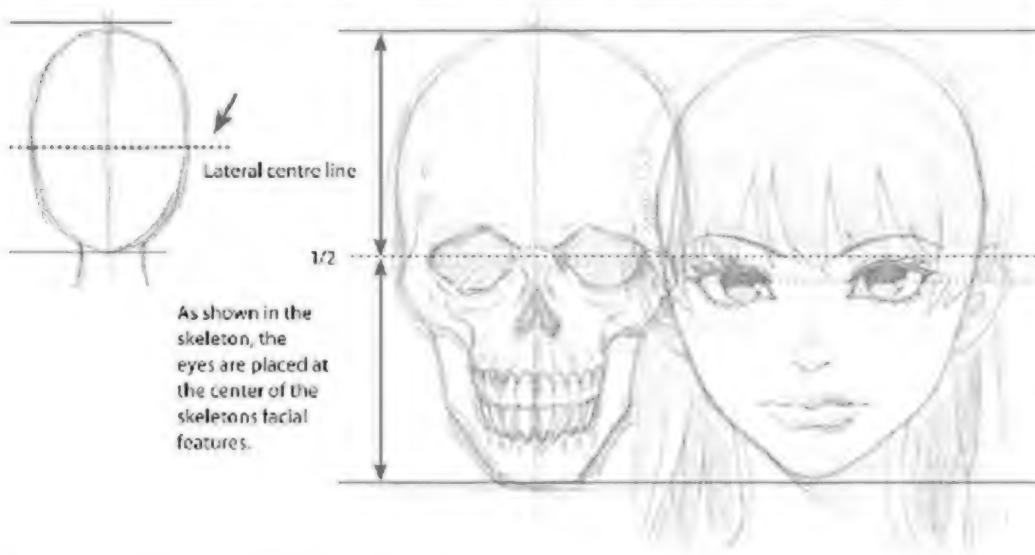
Lateral centre line is a benchmark!
Fix the lateral centre line of our own style!

In drawing up a figure, many painters will put the eyes a bit lower than the centre line.

In this figure, we put the upper eyelid at the centre line.

Lateral centre line

1/2

As shown in the skeleton, the eyes are placed at the center of the skeletons facial features.

### ● Practical drawing in the illustrations
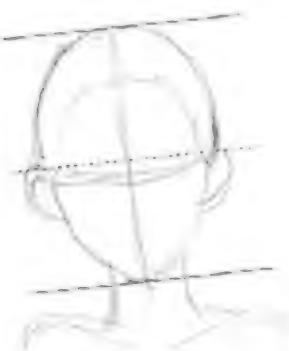
①Big contour profile

②Draw up the eye and hair outlines on the basis of the big contour profile.

③Depict the details to complete drawing. Fix the height of the left and right eye according to the lateral centre line.

● Practical illustrations
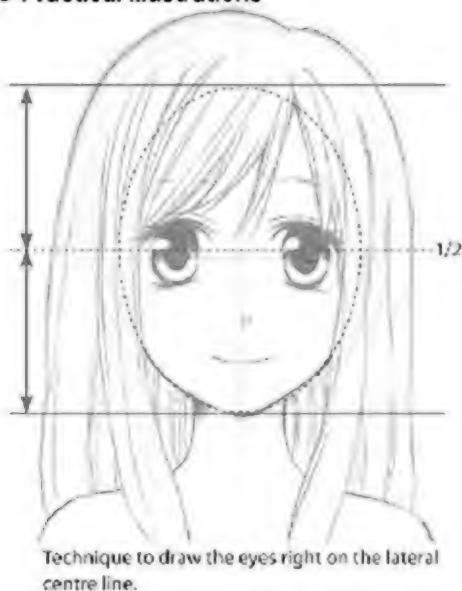
Technique to draw the eyes right on the lateral centre line.

1/2

Long
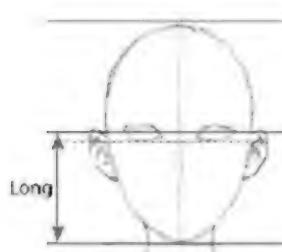
The eyes are slightly higher than the lateral centre line.

Looks more like an adult.

The lower eye line is placed at the lateral centre line.

Short
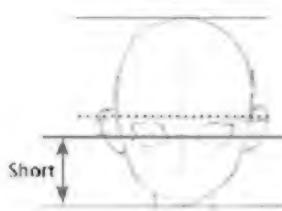
The eyes are lower than the horizontal centre line.

Looks like the face of a child.
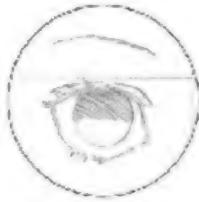
The upper eye line is placed on the lateral centre line.

Front side of facial features 1/2

Display the stereoscopic impression of the head.

The facial features are slightly slanted in overall direction.

1/2

Length of ears

Short

When put in the front side, the shape of eyes illustrated as in the above chart are completely different from the frontal shape.

These parts may be seen in the front.

The ears are put slightly behind the center of the side.
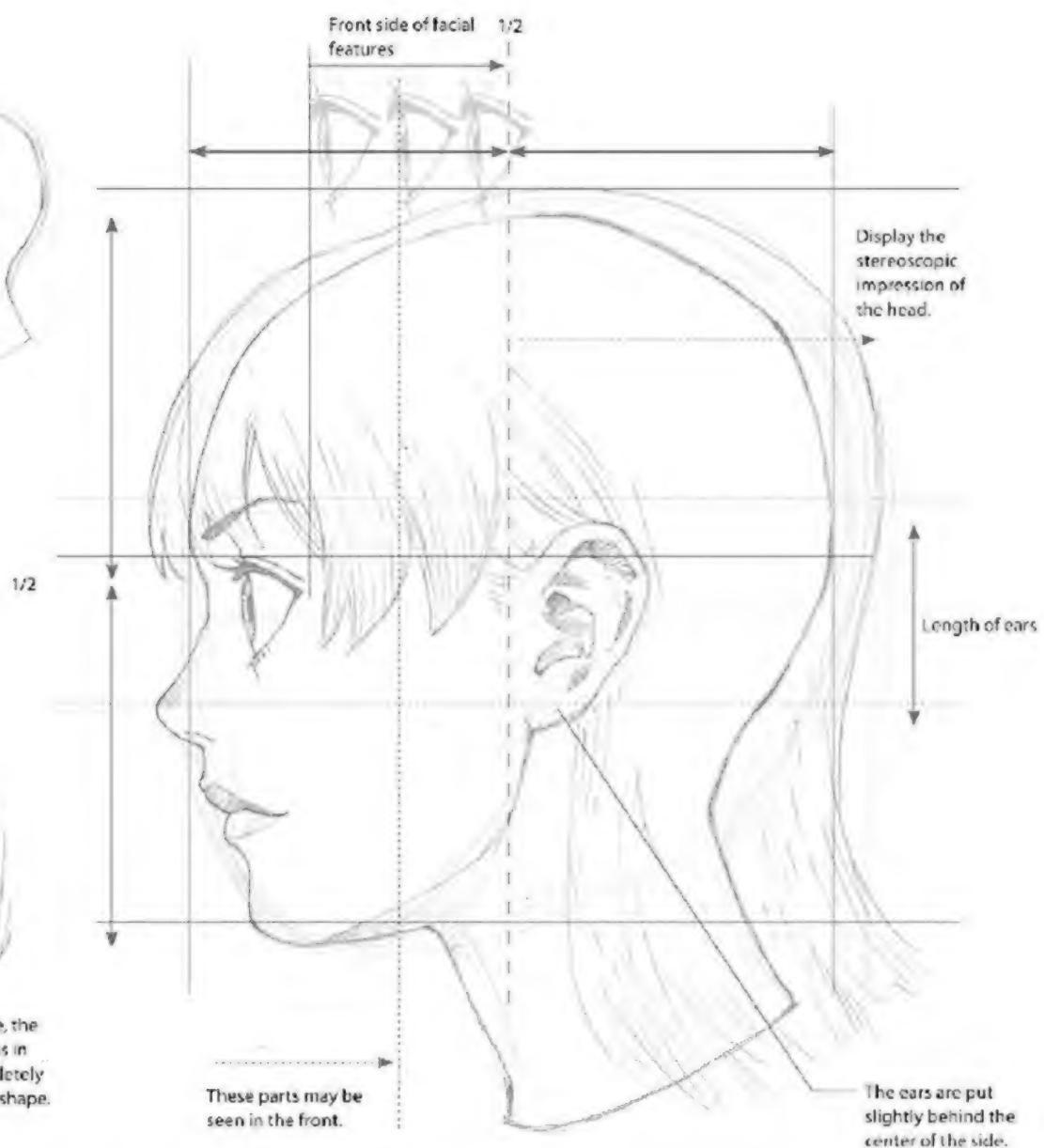
● **Modification techniques often used to draw the front side**

Draw the eyes a bit backward.

Draw the eyes basically the same as in the front.

**Steps to draw the big contour profile**

(1)

Draw up the circle and cross curve in basically the same size as in drawing the front face.

(2)

Draw up the contour line of the nose.

(3)

Draw up the contour line from the forehead to eyes, and then the outline of ears and chin.

(4)

Draw up the outline of the back side of the head.

It is all right to put the ears a bit backward.

Top of the head

Backward three-dimension

Outline of hairline

Centre line at the side of the head. It helps to fix the side steradian and ear position.

We may imagine the head as a ball in a rectangular solid (not a cube).

Side steradian

● **Expressions from facial features modification and position deviation**

Sorrow and dissatisfaction, revealed through modification of eyes, eyebrows and mouth.

Stupefied and startled. Exaggerated mouth transformation.

Steps to draw the big contour profile

(1)

③

①

②

Draw up the circle and cross curve to fix the deflection angle of the face.

(2)

①

②

Sketch the facial outline of the figure.

(3)

①

③

②

Modify the facial outline and draw ears.

(4)

①

②

④

③

Modify the overall head contour and draw the neck.

In drawing, remember that facial lines ① and back-of-head lines ② are in "relative" relations.

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Steps to draw the figure

Front side

①Find out the lateral centre line to fix the position of eyes.

②Fix the height of ears with the lateral centre line.

③Draw the hair.

3/4 side

The longitudinal centre line bulges slightly in the direction of the face.
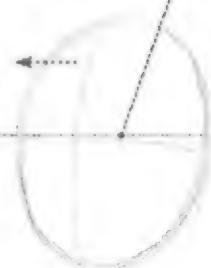
The lateral centre line is basically put in the center, i.e., eye level in normal situations.

①Sketch out the big contour profile of the head and fix the facial orientation and angle.

②Depict the face type and then draw the eyes and ears.

③Draw up the details of facial features.

④Complete with the hair.

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● Fix facial orientations and angles with circles and cross curves

Bend the lateral centre line upward, if we want to create the pitch-up impression with low angle view.

Vivid expression, effective in slight low angle view.

Slightly downward angle. It needs to bend down the lateral centre line.

Approach the front side angle, and the longitudinal centre line must slant to the external side.

It needs to see the top of head. If we want to create the sense of lowering the head.

How to draw facial elements

Understand the relationship of these elements

Facial features comprise eyes, nose, ears and mouth. Let's learn the structure and techniques to draw these basic elements.

Let's experiment with drawing a face with eyeglasses. To draw the facial elements well, we must have a clear idea of the relationship of eyes, and nose.

Front

There is some distance between the eyes and ears. This distance is the curve bending towards the back.

Extend backward

Eyeglass legs

Extend backward
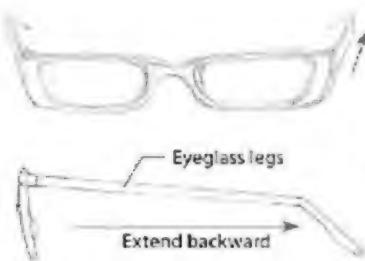
The lateral and vertical orientations of eyeglasses are basically paralleled. The eyeglass legs extend towards the back of the head.

The bridge of the nose is revealed as a protruded curve.

The eyeglass legs are put upon ears. The eyeglass leg hangs on the ear root, thus the position of ear in the head is easy to decide.

Front side

The eyes and ears are basically held in a same line.

3/4 side

The positions of ears are invisible.

The horizontal directions are parallel.

The eyeglass leg near the back of the head is a little wider.

Extend to the longitudinal direction from the side of the head.

The impression of looking up the front side.

The eyeglass legs are spread to compose a rectangle. At this time, we may use the low angle view, underside as the benchmark to draw the figure.

Draw the parts under the nose, mouth, chin and ears clearly to create a stereoscopic sense.

Eyes

Eyes are comprised of eyeballs and eyelids that cover the eyeballs. Whether eyes shine decides the sense of existence of the figure. This is an important point to endow vitality to the figure.

Shape and structure of eyes

Folds at the upper eyelid, which are also known as double-edged eyelids

Pupils

Upper eyelid

Eyelash

The white of the eye

Eye tail

Inner corner of the eye

Lower eyelid. If this is a big close-up, we must draw it doublets.

This circle is for the eye pupils, i.e., the black of the eye.

The part that is home to the eyeballs is eye socket.

The eyelid covering eyeball. The lines are curved.

The eye pupils are oval at the front side.

On most occasions, the inner corner of the eye is omitted. But we must remember the shape of the overall eyes when omitting it.

Highlight. Reflection of light in spherical surface. So, the form is rounded.

The upper eyelash is raised upward.
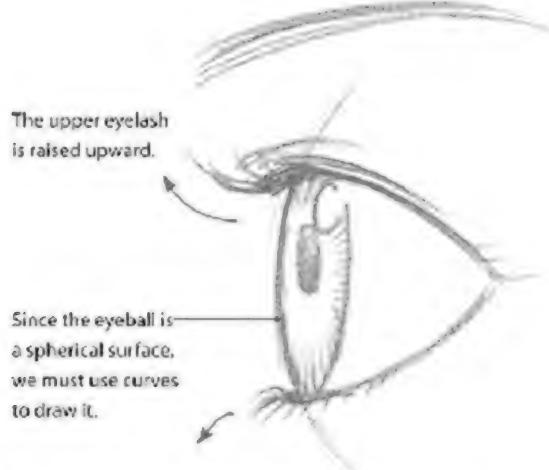
Since the eyeball is a spherical surface, we must use curves to draw it.

The lower eyelash is turned downward, and shorter than upper eyelash.

Think over the angles first before drawing any types of figures with any shapes of eyes.

Key points

- Proportion of the white of eye and pupils, and the size of pupils
- Shape of eyes and thickness of eyelashes
- Harmonize eyebrows and eyes to draw the figure well

①Draw up the shape of eyes and roughly the outline of eyebrows.

②Erase the lines for eye tails and eye corners. Draw the lines for upper and lower eyelids. Start to draw eye pupils.

③Draw the lines for eyelids and eyelashes clearly. Reveal the highlight in the eye pupils.

④Modify the lines to make eye pupil contour lines thicker.

Draw the upper part of eye pupil darker to make the eyes more energetic.
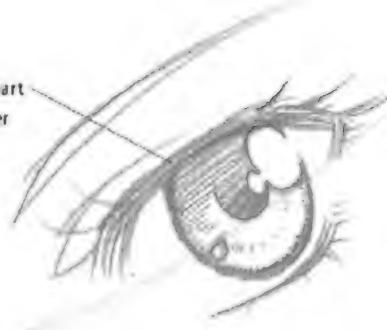
⑤Depict the details of eye pupils to complete the drawing.

● Crucial key points

The contour lines of eye pupils must be drawn as black and thick as the eyelid lines, with explicit lines.

Otherwise, the eyes will look weak reducing the charms of the figure.

Techniques to draw ordinary eyes, up-turned eyes and droopy eyes

In cartoons, eye close-up shows figure roles. So, keep in mind to design and draw figure's eyes with distinct shape features.

### ● Try to connect eye tail and inner eye corner

Ordinary eye

Up-turned eye

Droopy eye

Eye tail is above the centre line.

Centre line

Eye corner

Eye tail

Upper and lower eyelids basically parallel the centre line.

Eye tail is below the centre line.
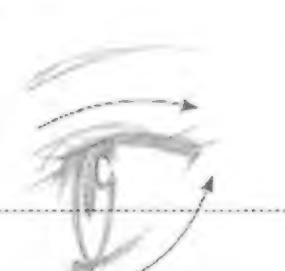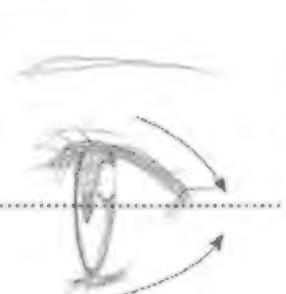
Keep the lower eyelid tilted when drawing an eye.

The lower eyelid droops.

● All these changes will alter the depth and width

Ordinary eye

Up-turned eye

Droopy eye

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● **3/4 side angle**

Ordinary eyes

Realistic ordinary eyes

Transformation

The upper and lower eyelids are parallel to the lateral centre line.
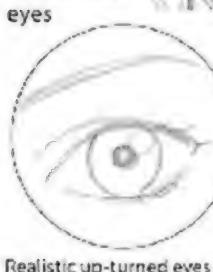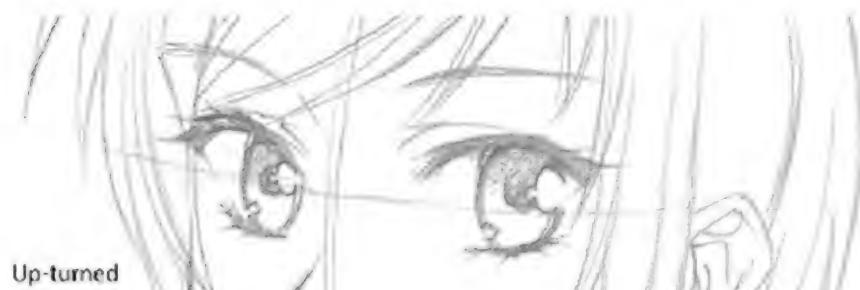
Up-turned eyes

Realistic up-turned eyes

Transformation

The upper and lower eyelids are slightly bent upward.
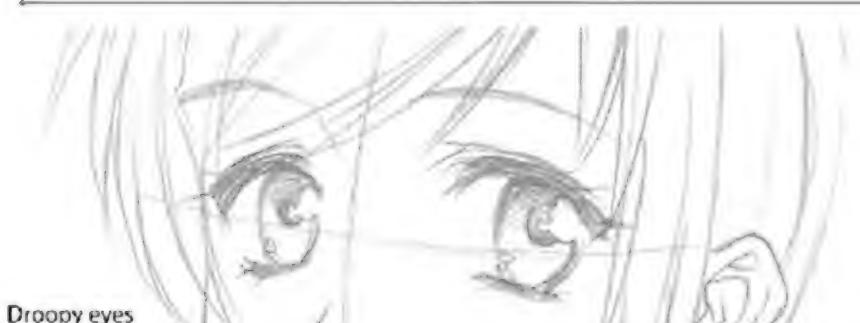
Droopy eyes

Realistic droopy eyes

Transformation

The upper and lower eyelids are drooping.

Express the pupils

Normally, the upper parts of eye pupils are partly shaded by the upper eyelids.

The white of the eye

Iris. This part looks dark brown or blue.
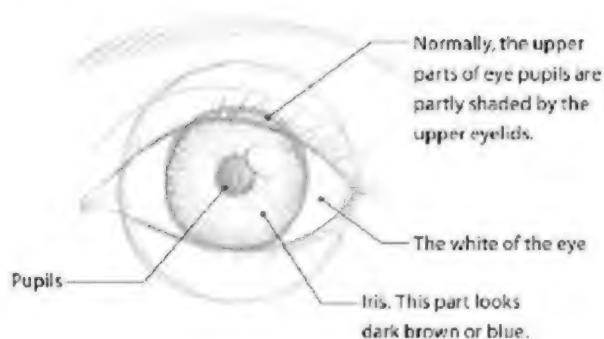
Pupils

Changes in the size of eye pupils

Normal situation

A bit small

Actually, the eye pupils do not change. The inner centre of the pupils change.

The pupils will enlarge in darkness.

The pupils will contract in bright places.
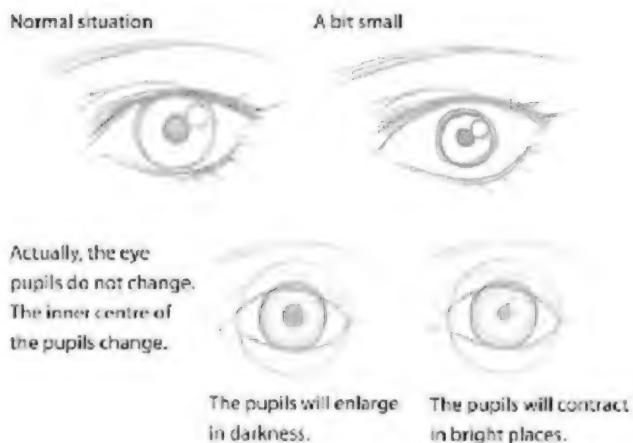
Color revelation of eye pupils

Black. The iris is mainly black.

Red and dark brown. It leaves a neutral tone.

Blue, yellow, gold and silver. Reduce lines and look white.

Techniques to draw all sorts of eyes
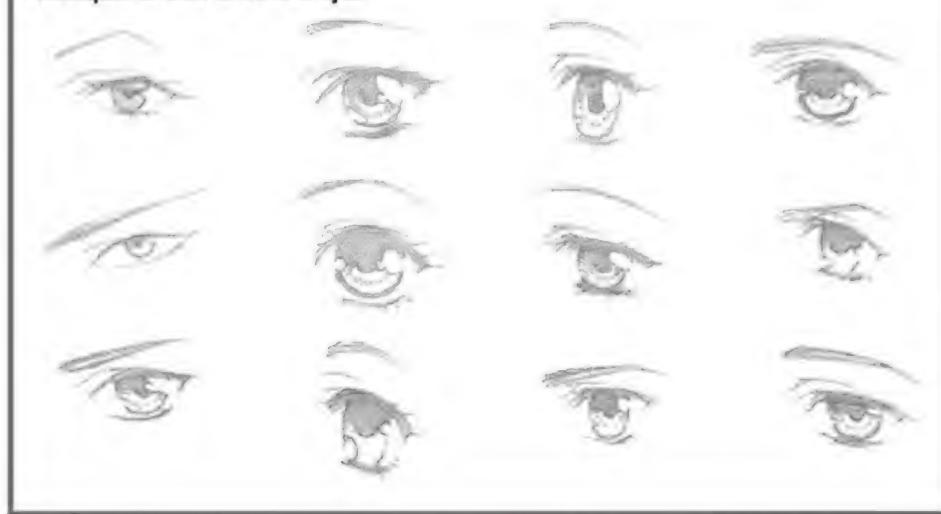
● Shapes of eyes
● Eyes change by integrating the size of pupils, thickness of contour lines, iris, and highlight. Since eyes are ball-shaped, the highlight is equally round.

Eyelash

Eyelashes are mainly drawn with fine lines, as well as bolder lines to thicken eyelids.

Draw up eyelashes

Common drawing methods

In clusters

Omit and modify eyelashes

Simple type

Explicit type

Point type/emphasis type

Bring changes to the eyes

● Change the angle of upper eyelids (lower eyelids remain unchanged)

Ordinary eyes

Up-turned eyes

Droopy eyes

● Change the angles of lower eyelids (upper eyelids remain unchanged)

Ordinary eyes

Up-turned eyes

Droopy eyes

Draw eyes at different angles. Pay attention to the angles of upper and lower eye lines.

● Normal angles from the front to front side

Front

45" angle side

75" angle side

Front side

One case of failure. The lower eye line is raised upward.
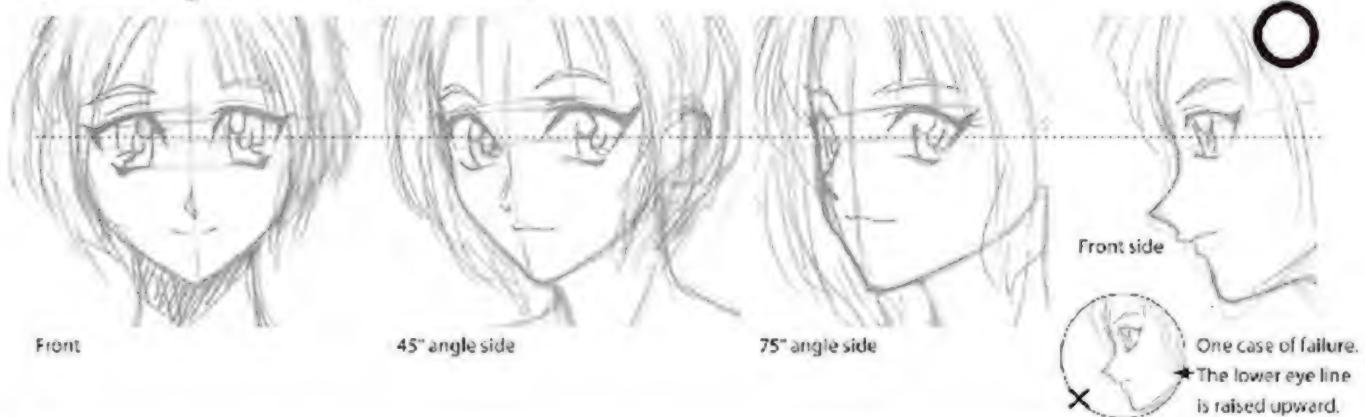
Flexibly apply the personalities of the eyes in establishing the figure
The role of up-turned eyes

In order to express the same role from different angles, we must design well the shapes of eyes and sizes of eye pupils, from both the front and side. In this way, we will enable people to see which role the figure plays by simply glancing at the eyes. Therefore, we must expand differences between different roles in the course of designing.

Soft glances. Closed eyes should be able to reflect the quantity of eyelashes.

The roles of droopy eyes

● Changes in eyes with angles of elevation and depression

Take the lateral centre line as the benchmark. Pay attention to the angles of the upper and lower eye lines that decide the shapes of eyes in drawing.

Ordinary eyes

Sense of low angle view

Sense of high angle view

Up-turned eyes

Droopy eyes

Nose

Shape and change

Techniques to draw nose realistically

Connect to eyebrows

Key points

Raised part at nose bridge

Bridge of the nose

Key points

Conform with the longitudinal centre line

The highest point (tip of nose)

Key points

Base of the nose

Key points

Completed figure
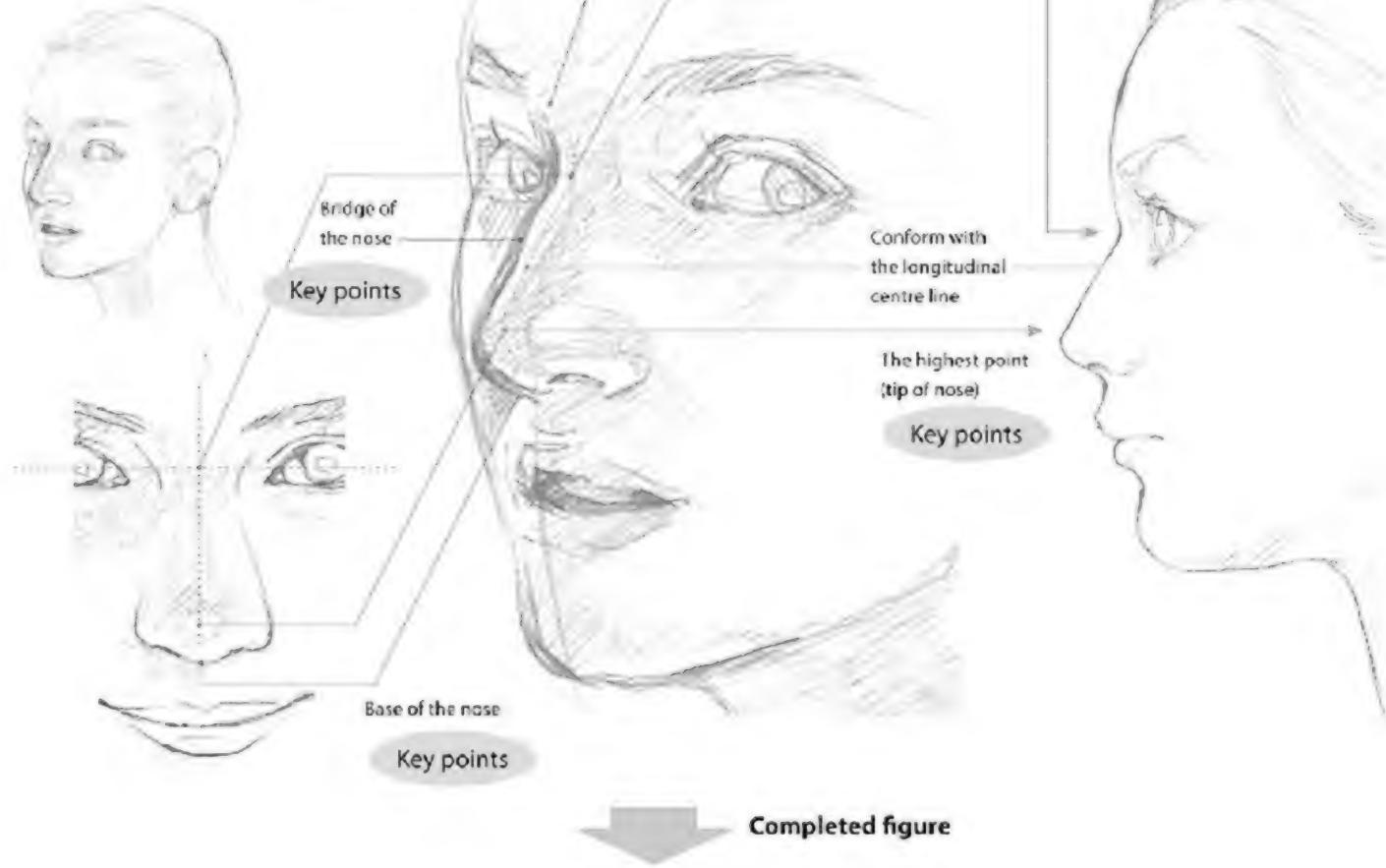
"<" shape technique to draw the nose

The parts starting to rise on the nose bridge, i.e., nose bridge, tip of nose, and base of nose, are expressed with lines. The nose is basically signified, looking like a "<" shape.

64

The shape seen from the front

Longitudinal centre line

Bridge of the nose, in belt form

Bridge of the nose invisible looked at from the front horizontally
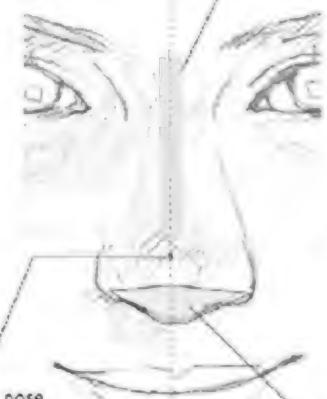
Tip of the nose

Base of the nose

Completed figure

Draw only one side of the belt-shaped nose bridge.
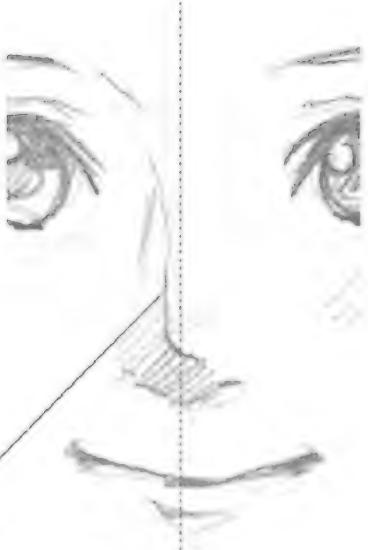
Draw the base of the nose narrower to look lovelier.

Low angle view

Tip of nose

The base of the nose assumes triangular shape.

The inexistent line. The base of the nose and the side are integrated in the drawing.

High angle view

Draw up the line for the bridge of the nose.

Assume "V" shape.

Draw up the lines connected with eyebrows.

Restrain the V-shaped lines under the nose.

Techniques to draw all types of nose

In cartoons, nostrils may be omitted. They may be expressed with short lines, even if they are presented.

Nostrils as seen in normal situations.

In the low angle view the neck bends slightly.

The head is raised a bit.

The side with 85° low angle view.

Raise the head for low angle view.

Lower the head for high angle view.

Mouth and lips

Normally in cartoons you draw a line between the nose and chin, and that is the mouth. But in drawing, we must remember the mouth may be open. This is a closed mouth.

Lips

In conventional practice, the expression of lips is omitted.

Draw up the contour line of lips. This makes the mouth more impressive. Even if the mouth is drawn small, the stereoscopic contour is very attractive.

● Structure and proportion of the mouth

Philtrum

symmetry

Upper lip

Corner of the mouth. Both ends of the mouth.

Lower lip

The upper and lower lips have basically the same thickness.

● Steps to drawing (front)

Philtrum at the upper lip

Benchmark thickness of the lower lip
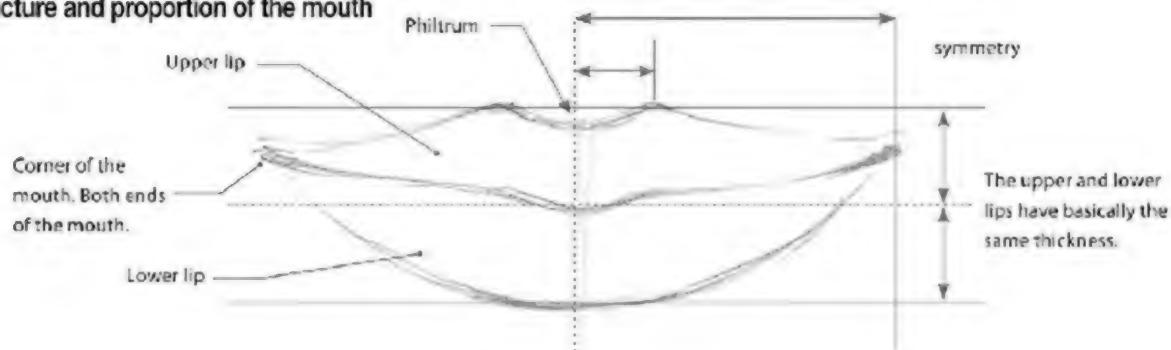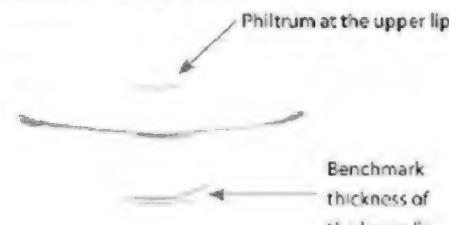
①Draw a normal sized lip in the front with your imagination

②Find out the centre line and draw the mouth with balance.

③Modify the lines.

● Ordinary 3/4 side

Without lips

Draw with the longitudinal centre line as the benchmark.

Reveal the contour lines of the lips.

When drawing from the ordinary semi-side angle, first draw up the outline of the mouth, and then follow the guidelines to draw the front mouth to keep balance.

● Technique to draw the side with angles

Technique that does not reveal the lips (simply draw up philtrum at the upper lip and the shadow at the lower lip).

Technique to reveal the lips.

● Steps of drawing
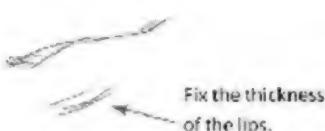
Fix the thickness of the lips.

①Draw up the rough feeling.

②Draw up the rough contour line.

The lines become shorter because of perspective.

Reveal the thickness of lower lip with curves.

③Take the longitudinal centre line as the benchmark to modify the shapes at both sides.

Draw up the moderate V shape.

④Complete the drawing.

● Technique to draw up open mouth
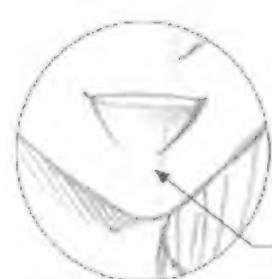
Do not draw the lips.

Methods to omit it.

Draw up the lips. The shapes of the mouth must be expressed.

①Draw up the overall contour line. The outlines of teeth must also be revealed.

②Modify the shape. If we want to draw up the lips, we must depict the inside of the mouth.

③Complete the drawing.

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Open mouth; Structure of the mouth

● **Smiling open mouth**

When it is opened, the mouth looks triangular with round corners.

The bottom of the mouth

The mouth is opened downwards.

Tongue
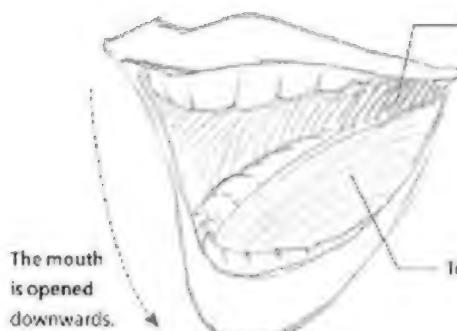
Structure inside the mouth.
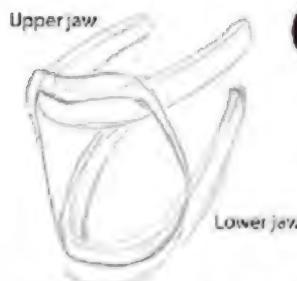
Upper jaw

Lower jaw

When the mouth is opened, the upper and lower teeth are in such a state. Keep an eye to the upper jaw and lower jaw in the course of drawing. The teeth are lined in U shape.

When the mouth is opened, the upper jaw and lower jaw are not paralleled.

● **Relations of chin and head**

Open mouth

Open wider

Turn shorter here
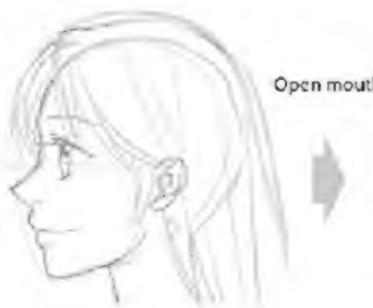
When the mouth is opened wider, the head will be raised upward.

Closed mouth

State with open mouth

Theoretically, the lower jaw should be downward, but ....

It looks unnatural to put the lower jaw downward.

● Open mouth in speaking

Reveal only with lines. Depict with simple curves.

Draw up the shape of upper lip, roughly in U shape or V shape.

Draw up the contour line of the lips. The teeth of lower jaw must also be drawn.

● Reveal the mouth

Curves at the upper lip are parallel with curves of the teeth.
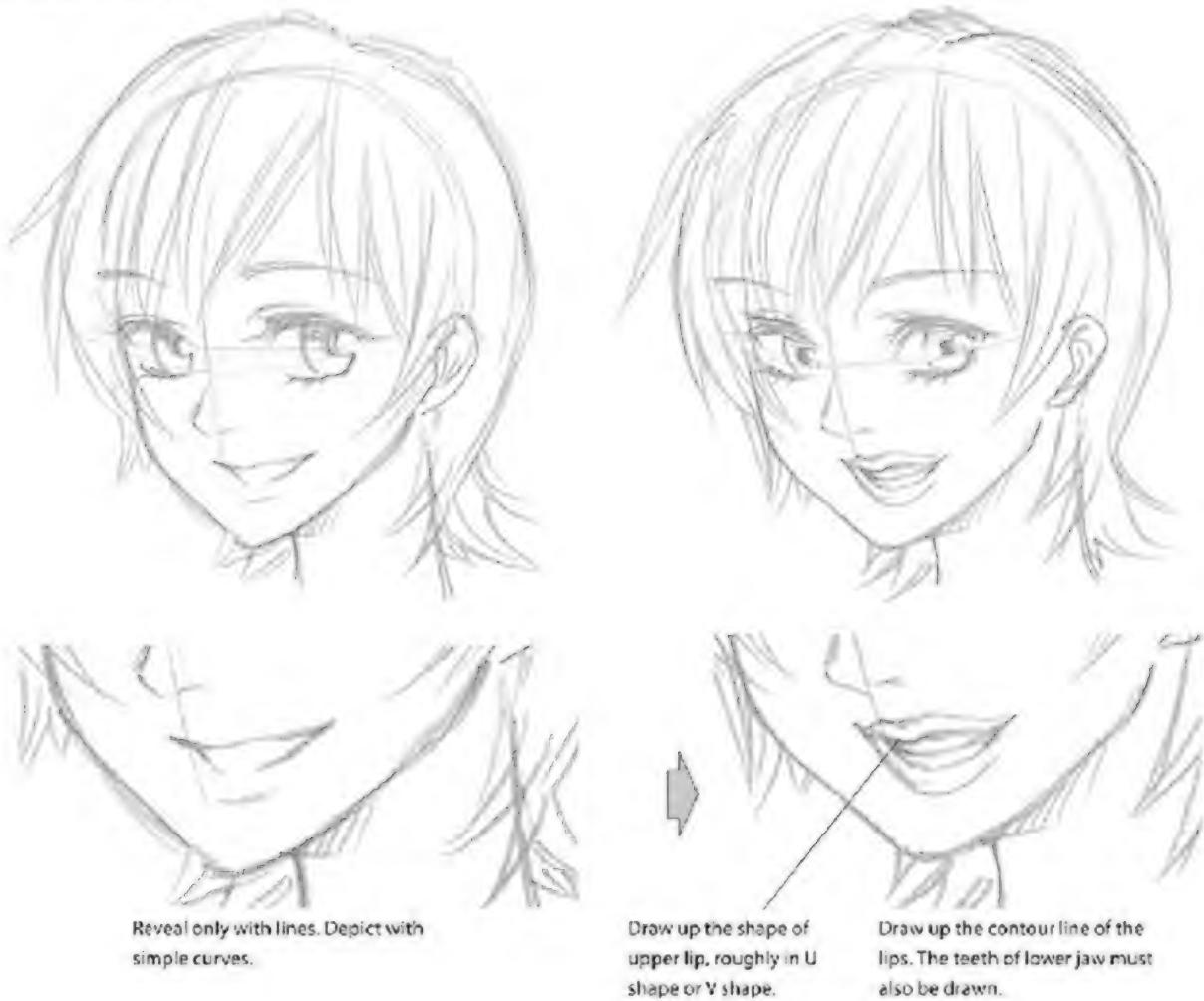
Do not draw the lips

Closed mouth. Draw the mouth corners darker to leave stereoscopic impression.

Open up the mouth slightly.

Open the mouth wider. The teeth of the upper jaw are expressed with simple lines.

Draw the lips

Closed mouth

Open the mouth slightly to show teeth.

Open the mouth wider to see throat head.

Use paralleled curves to draw the upper jaw and display the round oval space.

Expressions are shown through the dynamic parts of the head, such as eyebrows, eyes and hair. The mouth is also an important element to express feelings.

● **Startled and dumbfounded**

To express the startled look, we must keep the mouth into a longitudinal long oval (O shaped) or a small hexagon. Such a shape will achieve sound revelation effects.

Omitted type

Broad outline. We must start with broad outline no matter what we are going to draw. At this stage, the general shape of the mouth may be used to express feelings.

Hexagonal type

We must draw up the lip shape and the inside of the mouth.

O shaped type

● Angry

The mouth is drawn into a laterally long quadrangle, giving a better effect.

Changes in startled and dumbfounded expressions

It looks like anger due to in the shape of the mouth.

But the figure is actually startled. The expressions are closely associated with the eyes and eyebrows.

Laterally long quadrangle

Longitudinal long quadrangle

● Scream and howl

Similar to anger, the mouth may be drawn to quadrangular to achieve strong effects.

● Laugh

When laughing, the figure shows a triangular mouth.

Smile timidly with lowered head.

Head up and laughing with open mouth.

It will make us uncomfortable to draw the oval space too meticulously when the mouth is opened wide.

It is enough to draw up the lips, teeth and tongue. Remember to omit unnecessary elements.

Ears

In drawing ears, do not pay too much attention to specific details. Modify them on the basis of caring about their actual shape and position.

Position and size of ears

Ears can hardly attract people's attention when viewed in the front.

In the front side, the ears seem a bit smaller in accordance with common people's physical proportions.

But it might look too dull to draw ears in the position between eyebrows and nose, as stipulated by theories.

If we totally abandon theories and arrange the ears well with other parts, we may make the figure lovely. That is permitted.

Key points

● **A small principle** Figure exposing the inside of the auricle when seen in the front

Capable of seeing the internal structure of auricle.

The ear form at the front side shall be the original external contour when seen in the front.

● **Key points in drawing**
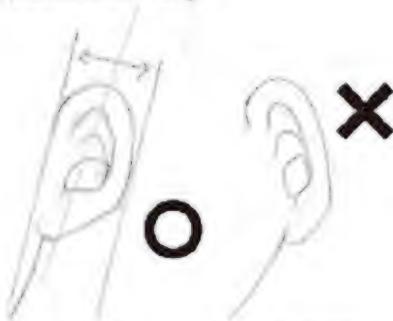
Angle of the ear when seen from the side. It is not vertical, but slanted slightly.

A case of wrong drawing. Pay slanting in drawing.

The joint of ears and head

The upper part of ear shall be separated a bit from the head.

Ears must be slanted a bit.
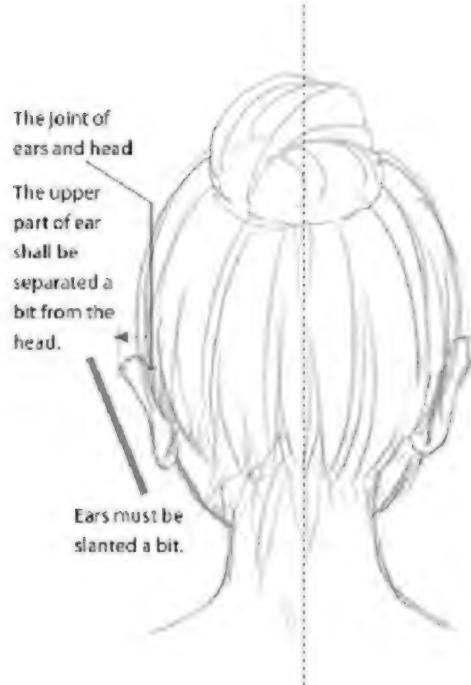
No hair is put around the ears.

Display hair well around ears when drawing ear-exposing hairstyle.

Modify the shape of ears according to the orientation and angle of head

● Ordinary angle

Auricle

Earlobe
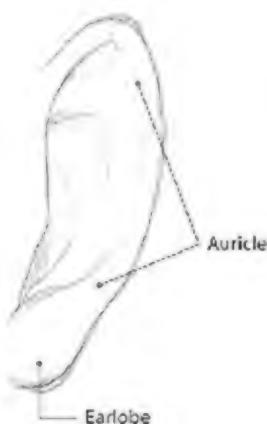
● Low angle view

Joint with the head

Ears will be slanted further when the head is raised.

● High angle view

Draw up the thickness of auricle.

Raise the ears a bit when the head is lowered.

Start with hairstyle in designing a figure

In designing a figure, it is crucial to let people know at a glance which role she takes. To this end, hairstyle is important.

The overall change of appearance brought by the hairstyle

Figures with same facial features will look quite different, if they have disparate hairstyles.

Cover up the forehead with hair shade.

Increase the thickness of hair to make it look bigger.

Exposing the forehead fully will make the figure look more open.

The hair looks thin, showing the form of the figure's skull and making the head look small.

It makes hair look thicker to hang it freely over shoulders.

Bare head also shows an attitude. In drawing hairstyles, we must make the head contour distinct. Let's start practicing from here.

Draw up easily distinguishable figures

● Identify the figures at first glance   O

Silhouette

Promptly know the role, even if the facial features are invisible.

Although it is important to stress the shapes of eyes and mouth and individualized design of facial features, hairstyles must show distinctive characteristics. It is crucial to identify the roles through silhouettes.

● Fail to identify the figures at first glance   X

Silhouette

It is hard to distinguish them, as they are of the same appearances.
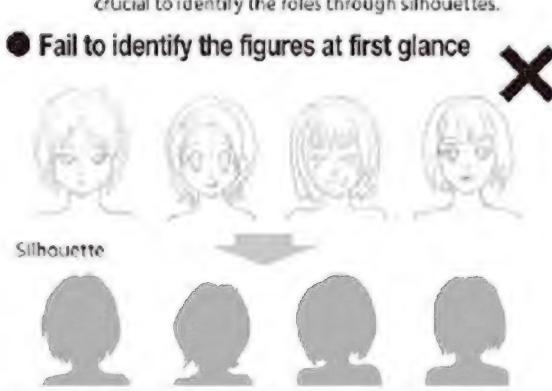
Figures of different hairstyles

Exaggerated transformation styles.

Transformation of realism styles.

We originally plan to draw it cartoon-like, but end with a more refined work.

There are as many hairstyles as the number of figures. They may be realistic or exaggerated, and modified into diversified modes.

Let's deliver the personalities of the figures with different hairstyles, and complete the missions in the stories.

Hair must be drawn upon a bare head

Before drawing up hair, decide the shape of head and position of the hair line first.

Be aware of the stereoscopic feature of the head in drawing up the figure.

Skull radian

Hair line (the line of hair growth)

The hair line ends here at the temples position.

The overhead curve is very gentle.

Back side of the head
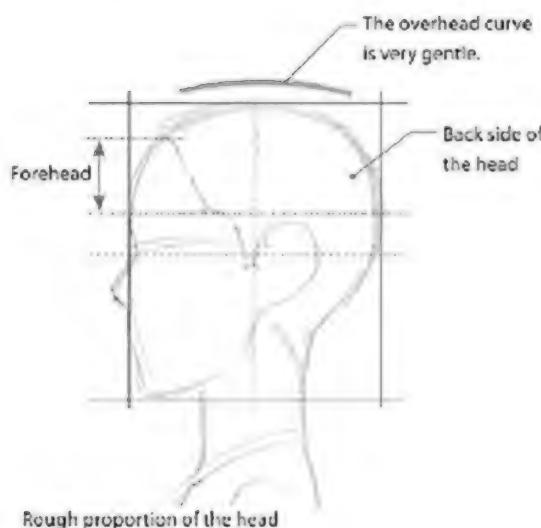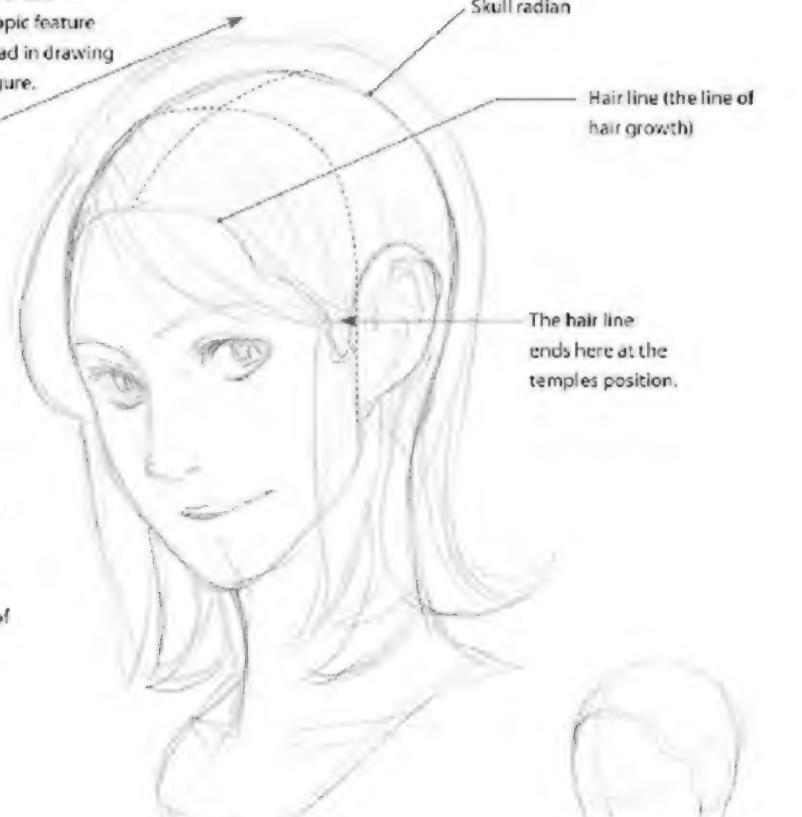
Forehead

Rough proportion of the head
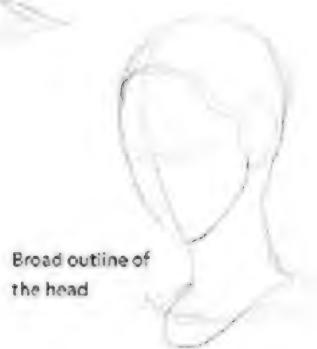
Broad outline of the head

● We may assume drawing up hair is like wearing a wig on the head

Hat

Bareheaded wig

Two-ponytail wig

Wearing a hat

Before putting on a hat

Bareheaded shape. If we shave all the hair, the head will look a bit black, because the scalp did not have direct contact with sunshine. It is expressed with shadows.

The effect with a wig. Different hairstyles will make the same figure with same dresses look very different.

Hair line

Hair line

Hair line

Hair line for the type of figures with broad forehead

Typical hair line shape

M shaped

U shaped

Changes in forehead width

O

U shaped

Draw intentionally with the U shaped hair line.

X

This is a result of drawing the forehead based on sensations, ignoring the hair line. It looks like the wig is misplaced.
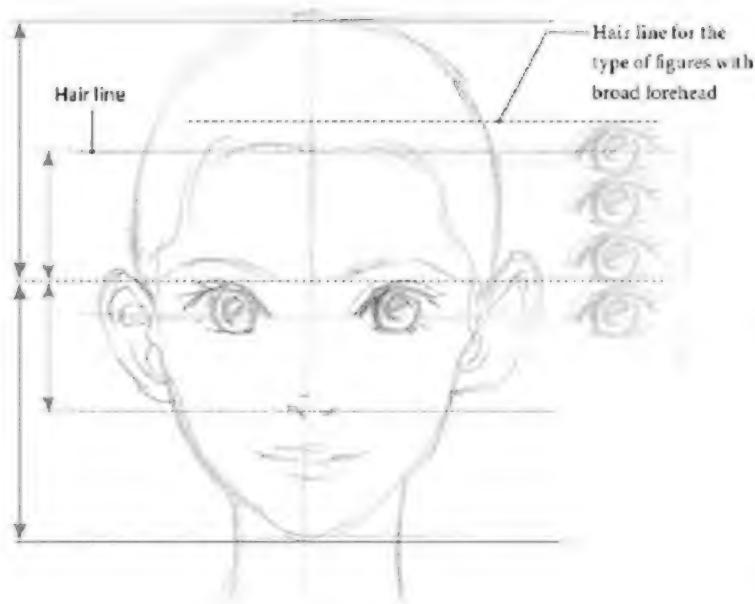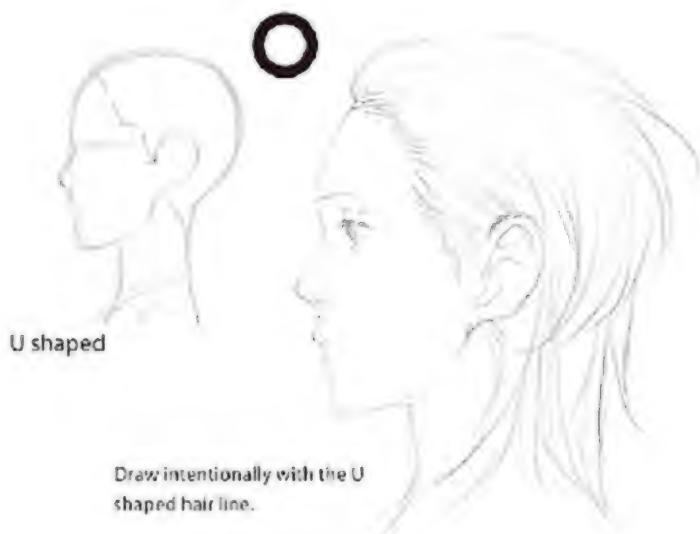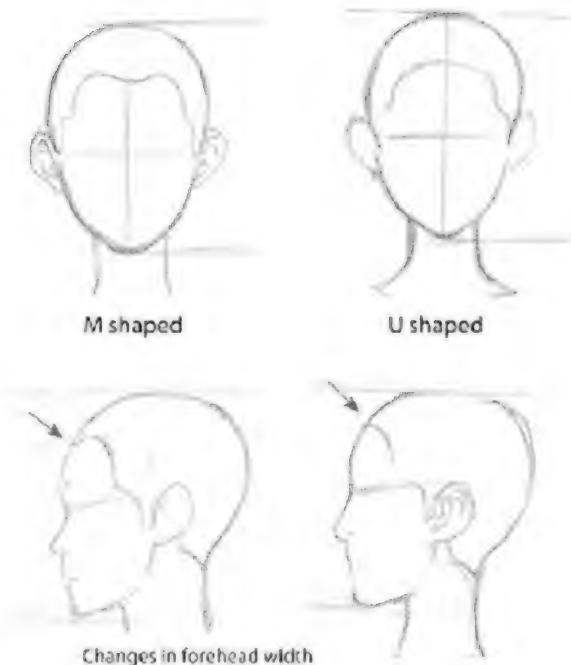
● Hair will not grow in the forehead

X

Error examples

O

Correct examples
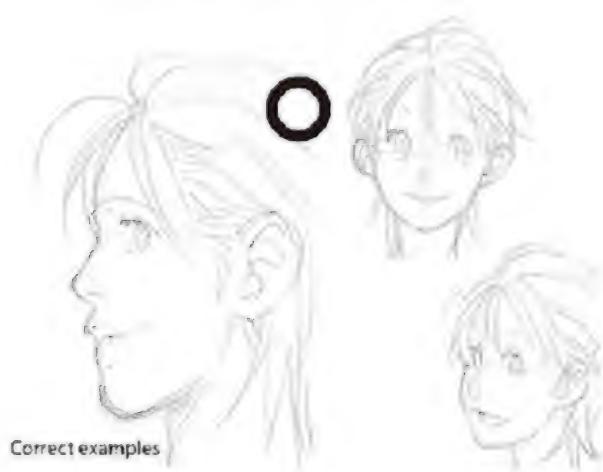
Steps to draw up hair

Type of round contour

Draw hairstyle by first fixing the thickness of the hair.

①
Hair line

Broad outline of the head
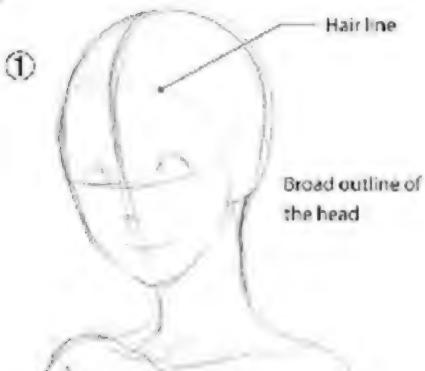
①Draw the broad outline, and make the head shape in particular accurate.

②
Broad outline of hair thickness. Draw along the contour line of the skull.

②Draw up the contour line of facial features and hair.

Key points

● **Lines to be found**
· Hair line
· Hair thickness
· External contour impression (silhouette)

Start to draw hair shade with the hair line.

③
Hair line

③Draw the fringe in the front.

④
④Draw the hair spin.

⑤
⑤Draw the hair orientation and it's done.

Do not extend laterally too much. Keep it a bit shorter than the length wise direction.

Put the position of eyes a bit lower to make the figure lovelier.

①Draw the broad outline.

②Fix the thickness of hair according to the radian measure of the head.

③Impression of wild curl-up. Draw it up with curved lines.

Application: Q-version impression of big-head figure

Draw the hair a bit thicker to make the head look larger.

Impression of a child

Thickness of hair

Broad outline of hair

Add up the part for the head

The original head contour line turns into the hair line.

Rough position for the eyes
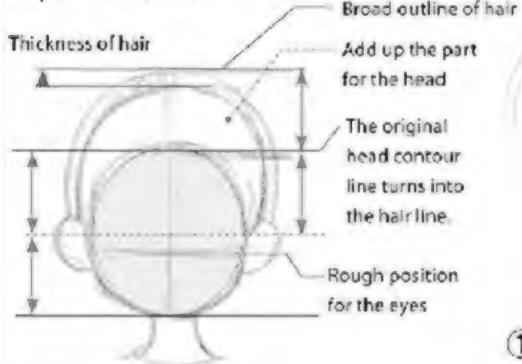
Draw the head 1.5 times larger and then draw the hair outline.

①

②

Impression of a girl

Thickness of hair

Hair line

Rough position of the eyes
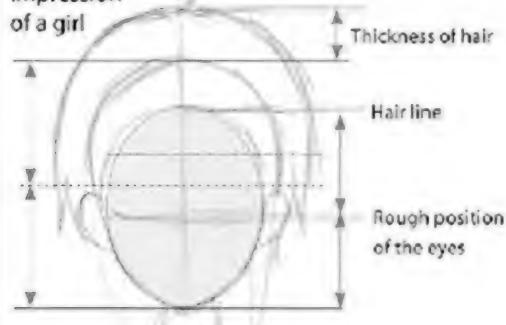
Raise the hair line and increase the thickness of hair.

①

②

Seven elements to fix hairstyle

Making diversified hairstyles through all combinations.

1 Hair quantity

Actual head shape

Reveal the curve lines at the back of head

Small hair quantity

Round curves

Medium hair quantity

Many hairs

Multiple hair quantity

2 Length

Baby-style hair
Short hair to cover ears.

Hair length
Length to cover chest and hang to the waist.

Medium and long hair
Length to cover the neck (droop to shoulders).

Short hair
Hair not yet reaching shoulder and expose the neck.

3 Hair quality

Straight hair
Straight long hair

Wave style hair

Pin curl

In a hair salon, hair is separated into hard hair, soft hair, dry hair and oily hair.

4 Hair color

White · dark brown ⊛In the cartoon sector, particularly when the works are not elucidated, the hair may be deemed as "ordinary = black".

Black or red hair

Blonde, silver, blue and yellow hair

5 Comb and braid the hair

Pony tail

Two pony tails

Coiled hair with three braids

Braided hair

6 Wear hair ornaments

Hair band

Hairpin

Rubber band
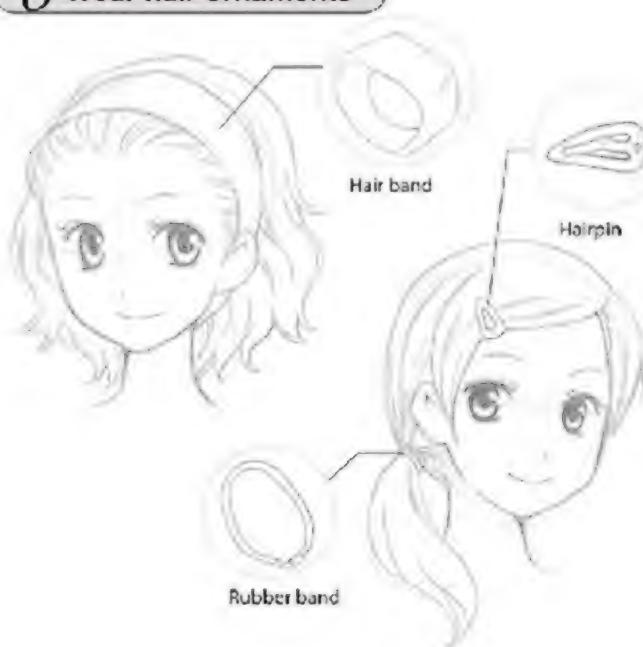
7 Symmetry and asymmetry

(Same face type and facial features, but with different hairstyles)

Symmetry

Asymmetry

1 Hair quantity

Hair quantity refers to the amount and thickness of hair.

● **Type with small hair quantity**

One distinct feature of smaller hair quantity is that it is easy to expose the original shape of the head. Sincere hair is closely pressed on scalp, ears are easily revealed.

Multiple hair quantity

Medium hair quantity

Small hair quantity

Fundamental benchmark of hair quantity

● **Type of medium hair quantity**

Hairstyle that may expose or hide ears.

● **Type of multiple hair quantity**

The head will look large if it has multiple hair quantity.

It is not easy to balance short hair in multiple quantity. Remember to balance the left and right range in drawing.

● Small hair quantity

• Small total hair quantity
• Thin hairline
• Softly stick to the scalp (will not puff)

Draw with thin lines to reveal the impression of straight hair.

Display the round curve at the back side of the head.

The hair will flow inward along the neck contour (without a sense of being propped up or puffed up).

The hair will be fluffy, with tenacious hair root. It will be easier to express with such a feeling.

● Medium hair quantity

• The hair looks a bit hard in quality. It will do by simply create some fluffy impression and degree of hardness.

It is all right with straight hair and bit wave hair. It may be expressed with ease curves.

Display the fluffy sense of hair with curves.

● Multiple hair quantity

• Large amount of hair
• The hair becomes warped upward and unfit because of hard hair quality. Many hairlines look warped up.
• The hair is drawn in separate lines, no matter if it is thick or thin.

The lines may be thick and thin, and adjustable in the course of drawing.

Although the hair looks fluffy, it will spread along the head contour line according to head form.

2 Length

Draw up the hair with fixed length

● **Long hair**

Front   Front side   Back

———————————————————— Waist line

Hair may be separated into three main styles of long hair, medium and long hair, and short hair.
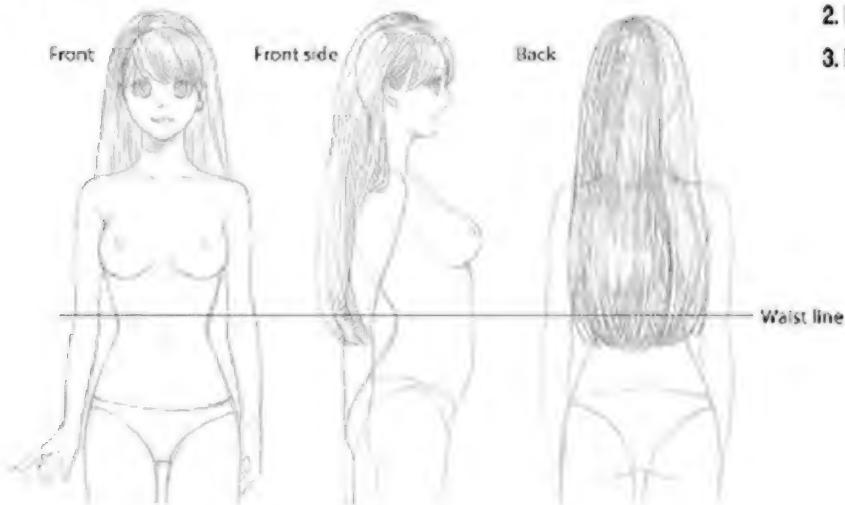
Key points

1. Fix length
2. Fix hair quantity
3. Draw up views for the front, front side and back

In addition to hair quantity, we must determine relations of hair and ears, and the form of spreading hair.

Practice to grasp hair trends

Top of head

Hair vortex. In the rear of the top of head.

Draw hair with curves slightly lower than the back side of head, leaving a soft impression.

Draw up contour of strands of hair and modify them slightly at the end.

Typical black long hair

When drawing hair, fix the position of hair vortex first, and proceed to draw curves along the curved surface of head.

The hair is spread irregularly near the end.

The hair gathers near the end.

The hair is bundled near the end.

Features of hair of three lengths (distinguish key points for drawing)

● Long hair

Straight hair

Soft wavy hair

Wakame style curly hair multiple

Long hair is usually drawn with less quantity
Long hair will normally droop and fit, because of the weight.
Hair longer than shoulders is seen as long hair.

● Short hair

Cocked-up short hair

Straight hair

Curly hair

Soft wavy hair

Short hair leaves the neck refreshing
No matter the quantity, short hair will clearly expose the neck (refreshing the neck).

● Medium and long hair

The contour profile is short hair

The neck and collar are covered up, not looking as refreshing as short hair.

Straight hair

Straight hair

Soft wavy hair

Medium and long hair will cover up the neck
This is a hairstyle between short hair and long hair. It is actually short hair extended to the collar.

3 Hair quality ~ Straight hair and wavy hair ~

Straight hair is drawn with relatively straight curves (instead of circles), and big wavy hair is drawn with circling curves.

● Straight hair

● Wavy hair

Inward curly hair

Outward curly hair

Inward curly hair

Outward curly hair

## Grasp the differences of lines

● Straight hair applies C shape lines

Straight hair may have certain curves.
Straight hair will not change curve directions midway. Just imagine the C shape and draw the hair.
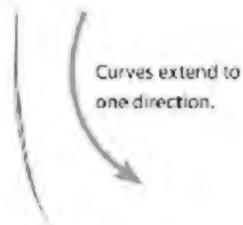
Curves extend to one direction.

Style of the end of straight hair. Draw the hair simply with curves.

● Wavy hair applies S shape lines

Draw wavy lines exactly as the literal meaning. The curves will change direction midway. Just imagine the S shape and draw the hair.

① ② ③
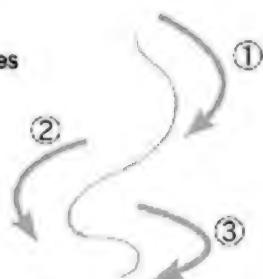
Join the three curves to generate wavy hairlines.

Style at the end of wavy hair. They are a combination of crooked curves, properly supported with straight hair lines.

Long wavy hair

Short wavy hair

Straight hair + wavy hair

● Steps to draw wavy hair

Complete

Draw the hair in strands like ribbons.

①

Fix the general direction of the hairline.

②

Decide where hair will part in the forehead.

Take the hair line as benchmark.

Hairlines will grow downward following the head contour from the hair vortex at the top of head.

③

Start to draw at where the hair parts. This is a strand of hair to be emphasized.

④

Thin broken hair may be drawn with curves that represent straight hair.

※Note: Straight hair does not necessarily mean thick and tough. Naturally, wavy hair will not always be soft and fine. The hair will be designed according to hairstyle in thickness and softness.

4 Hair color

Black hair

To manifest hair color, we may spread the color flat or in line with the direction of hairline, taking into account the light source directions.

Pencil outline before coloring.

Without luster.

Decide the impression of hair according to designed impression for the figure. Sometimes, hair without luster adapts to settings better.

Draw up luster according to hairline direction.

Revelation of luster (highlight). Display the highlight part in a graphical approach according to head curves.

Revelation of luster. Reveal stereoscopic impression with head curves.

● Display luster of hairlines

Leave white space according to head curves and hairline directions.

Blonde hair and silver hair

Blonde hair and silver hair may be expressed with brush strokes, without greater distinctions.

①The illuminated part is in highlight. Fix the position of specular belt.

②Display the shaded area with parallel lines.

③Complete it.

● **Steps of drawing** Draw up the cyclic highlight belt.

The hair vortex part will become warped up.
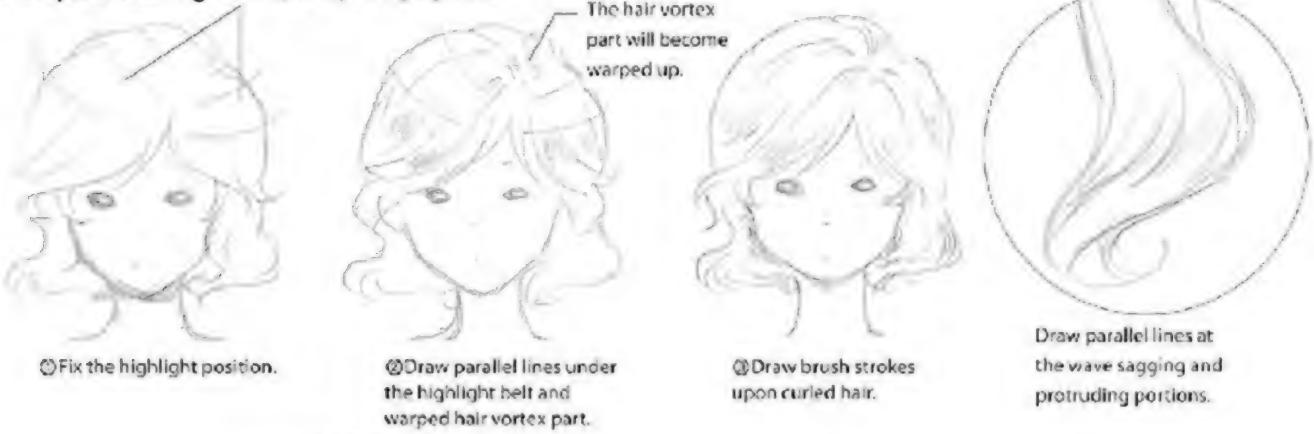
①Fix the highlight position.

②Draw parallel lines under the highlight belt and warped hair vortex part.

③Draw brush strokes upon curled hair.

Draw parallel lines at the wave sagging and protruding portions.

④ Complete it.

Sag

Protrude

Make fewer brush strokes at the protruding portions than sagging portions. Thus, they will form distinct contrasts and display hair quantity.

White hair. It will do by simply drawing up the trends of hair lines. Parallel lines are not needed.

5 Comb and braid the hair

Tied-up part

Gather towards the tied knot.

Parting

Hair line

Key points ①Parting line
②Hair line
③Tied knot

● Display fixed small hair ornaments

Rubber band

Small ornaments

● Benchmark position to braid the hair

Braid the hair high
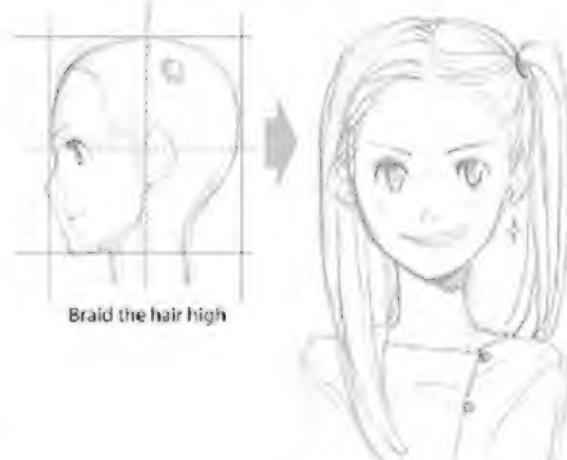
Benchmark position to braid the hair.

Middle position
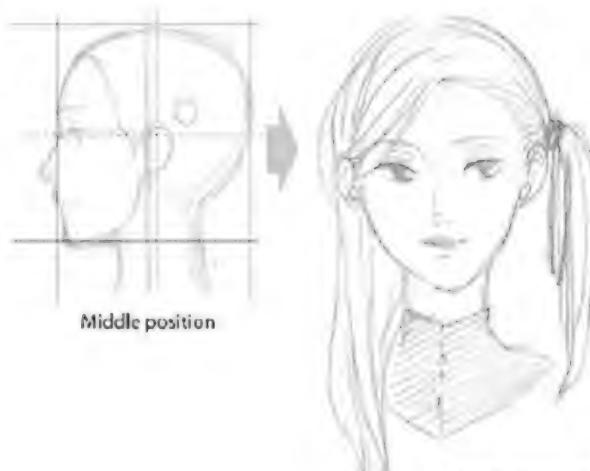
Braid the hair at the middle of one side.

Failure example

Positioned too close the front
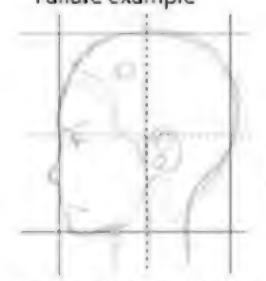
Ill balanced

Two pigtails

One pigtail at each side of the head. Keep them at same height.

● **Key points for drawing**

Basically parallel centre line of the side

Draw up the rough outline according to imaginations.

In drawing the rough outline, draw a circle at the tied knot as a mark.

Gather the hairline towards the tied knot.

Draw up curves along the head shape.

Reference: failure cases from left-right asymmetry.

Type with coarse hairlines

Type with pliable hairlines

Parting line of hair at the back of head. The hair is separated in the middle.

The hairline trend curves will differ according to the head curves. The hairline trend display the contour of head curves.

● Display hair parting at the back of head

Direct parting type

Sawtooth type

Natural parting type

Side appearance of back of head with saw-tooth parting.

Saw-tooth parting does not coincide with centre line of head.

Application examples

Twine only part of the hair at head top into a small braid.

Short braid

Natural fall

Seen from the front

Ponytail

Style of braids at the back side of head.

● All positions

High position, creating a lovely impression.

Middle position, leaving a lively impression.

Low position, leaving a calm impression.
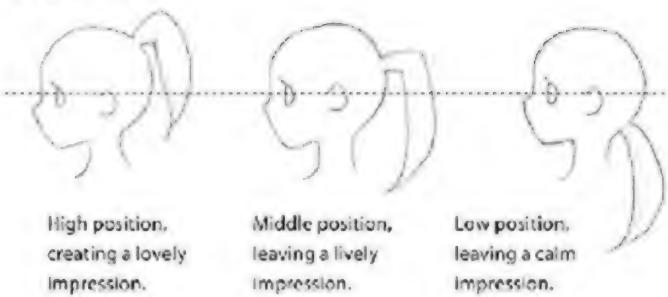
● Steps to braid ponytail

① ② ③ ④ ⑤

done!

⑥

Just as its name implies, ponytail is a braid style looking like pony tails.

Three-ply braids

Braid the hair.

Braid the hair into three-ply braids.

Twist the hair.

Turn into ball shaped hairstyle.

6 Wear hair ornaments

● Satin ribbon

First, draw up the ponytail outline. Then, add the satin ribbon for ornament.

It is unnecessary to display the hairline trends of Q-version figures. Just draw up the satin ribbon.

Draw up only the outline of satin ribbons.

Steps to draw up ponytail with satin ribbon
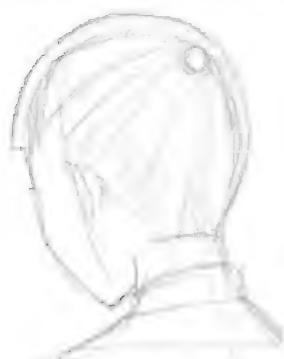
①Fix the position to gather the hairline.

②Draw up hairline trends along the head curves.

Center of satin ribbon

Center to gather the hair
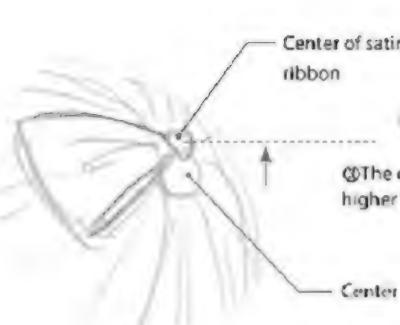
Key points

③The center of the satin ribbon is a bit higher than the center to gather the hair.

Ribbon ornaments

Some satin ribbons are made in advance and clamped with hooks.
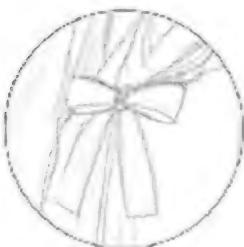
Satin ribbon knotted and then tied.

Hairpin style, fastened by clamping the hair.

④ Completed.

● Bind hair with ribbon

● Wrap hair with cloth

Bind hair to one side.
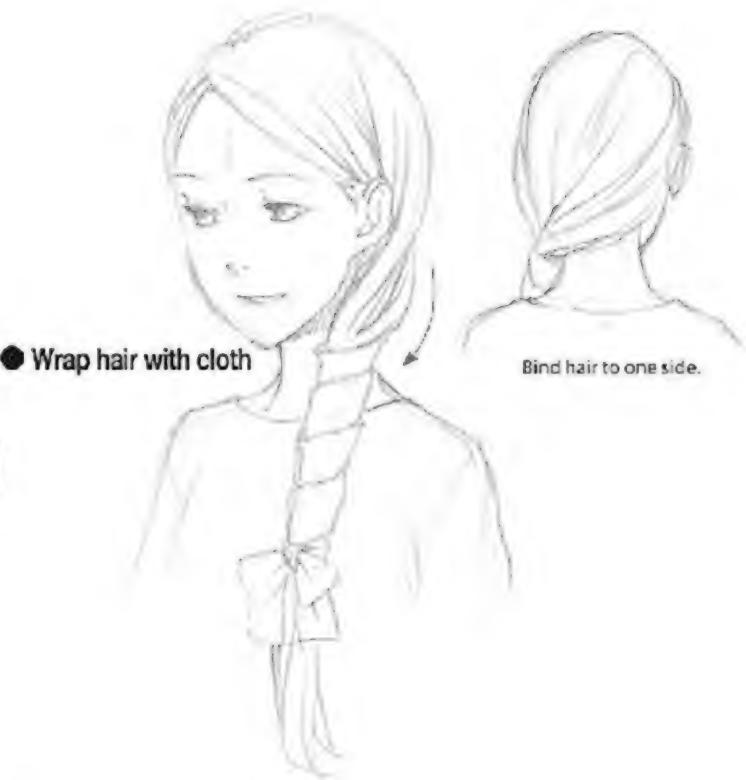
Twist the ponytail into a ball and wrap it with cloth.

● Apply small ornaments to fasten the hair

Display the bundled hair that sags naturally with a few lines.

Draw up dense lines at the knot binding up the hair.

Use relatively more lines to display the hair tightly fastened at the back of head.

Think about the trends of hairlines before drawing up twisted hair.

Ribbons are small ornaments applied to fasten the hair. Add some lovely and fashionable elements in the course of satisfying the demand of fastening the hair.

● **Types of hairpins**   Draw in line with head curves.

● **Types of hair bands**   Ornaments only, without the function to fasten the hair.

Draw in line with
the gentle curves
of the forehead.

Wrap up and cover the head

● **Head scarf**

Big handkerchief impression, and tie a knot at the back side of head.

Fold a handkerchief into strip, wrap up the head, and tie a knot at the chin.

Wrap up the head with triangular scarf, and tie a knot at the back of neck.

Wrap up the head with a triangular scarf, and tie a knot under the nose.

● **Cloth band**   Wrap up the head with width cloth band.

Head scarf type: break the angle of rolled-up cloth and fasten it.

Pattern tightened in the front.

Pattern folded and wrapped at one side.

Pattern resembling triangular scarf to wrap up the back side of head with a long cloth.

● **Nun type**

Wrap the head with cloth and expose only the face.

● **Ninja type**

Wrap the head with cloth and expose only the eyes.

7 Symmetry and asymmetry

In designing figures, painters may be inclined to draw figures only of one type, because of personal preference and habits. If they want to draw up figures with a completely new outlook, they may approach them from symmetry and asymmetry angles.

Left-right symmetry

There are four prototypes of left-right symmetry

● Type 1: With hair shade in the front

Transformation

The forehead is shaded to leave a gentle quiet impression. The hair shade may be drawn to cover up eyebrows. In this manner, it is hard to observe the figure's expression. Therefore, this technique is suitable to display mysterious figures.

● Type 2: With hair combed in the front

Big transformation

Figures exposing the forehead leave a open and lively impression. This technique may be applied to display the type opposite to those with shaded forehead.

● Type 3: Central parting

The intermediate type between type 1 and type 2. Figures in this type are not attractive as those of type 2 with fully exposed forehead. But they also leave a lively impression.

● Type 4: M-shape hair shade

Opposite to type 3, the figures expose the forehead faintly, leaving an impression beyond understanding and judgment. This technique may be applied to display mysterious figures with distinctive personalities.

They are clear at a glance even when put in boxes.

These hairstyles apply to big wavy hair.

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Side parting head adopts asymmetrical hairstyle.

Big transformation

Transformation

It may display extroverts or figures of strong character.

Cover up one eye, a typical hairstyle to create an air of mystery.

Partly exposing forehead is fit for displaying the type of figures who are highly self aware, confident, and want to attract attention of others.

Exposing forehead a little like this will create an open, bright and aggressive impression.

Such short hair leaves a lively impression. But exposing a small portion of the forehead hints that the figure is uneasy at heart.

One sided ponytail is also a typical asymmetrical hairstyle.

Unsophisticated personality, somewhat sensitive.

Before cutting the hair

Does not look like the same person in different boxes.

● Type with hair shade

The figure design is to ensure the same face is drawn from every angle. It will leave a different impression when the hair quantity is different, even if the facial features remain the same. It is important to draw well the 3/4 side and front side of the figure.

②3/4 side design drawing

①Front design drawing for the figure.

Straight and long hair

③Front side design drawing

If...

The figure will look lovely, if the hair is fluffy in the front. If we handle it this way, we will modify it correspondingly in other angles.

A case with small quantity of hair. If we think it good...

We will draw a contour line to display the frontal hair with a curve.

The 3/4 side must also be modified with the front side design.

The hair in the back of the hair must also be modified with fewer fluffy hairlines.

Reference: Key points designed to draw up the type with central parting line

Key points① Display the forehead height at the central parting line.

Key points② Establish the range of parted fringe.

Key points③ Establish the length and curve of temple hair.

Key points④ Make the frontal hair a bit fluffy.

Key points⑤ Trends of hair around ears.

Key points⑥ Position of hair at back of head.
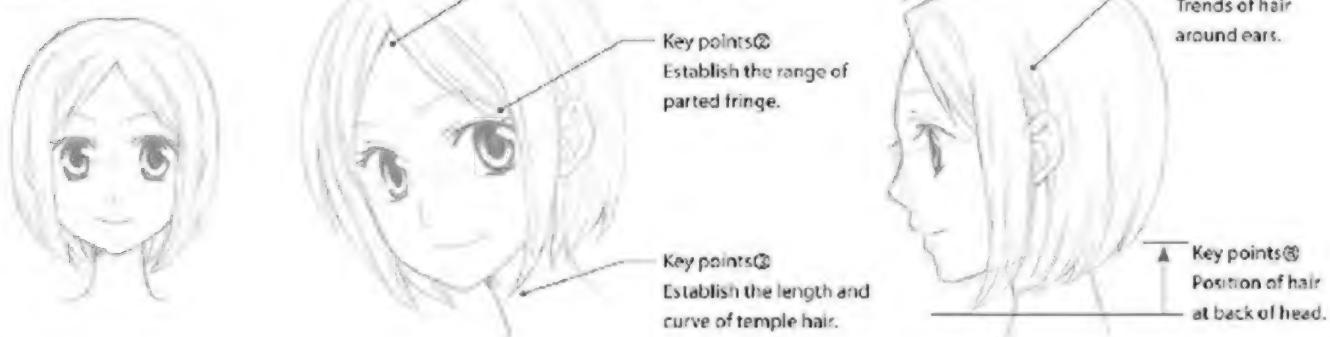
Types of combed hair shade

Distinguish with hair quantity.

Change①
Unobvious fluffy.

Change②
The contour is flat and not fluffy.

Change③
There are fewer hairs around ears.

Change④
With fewer hairs, the lines around the neck will be modified too.

Change⑤
The hairs around shoulders are reduced.

Key points

● In addition to observing hair quantity changes, we must determine designs of related sides when drawing leading role figures.
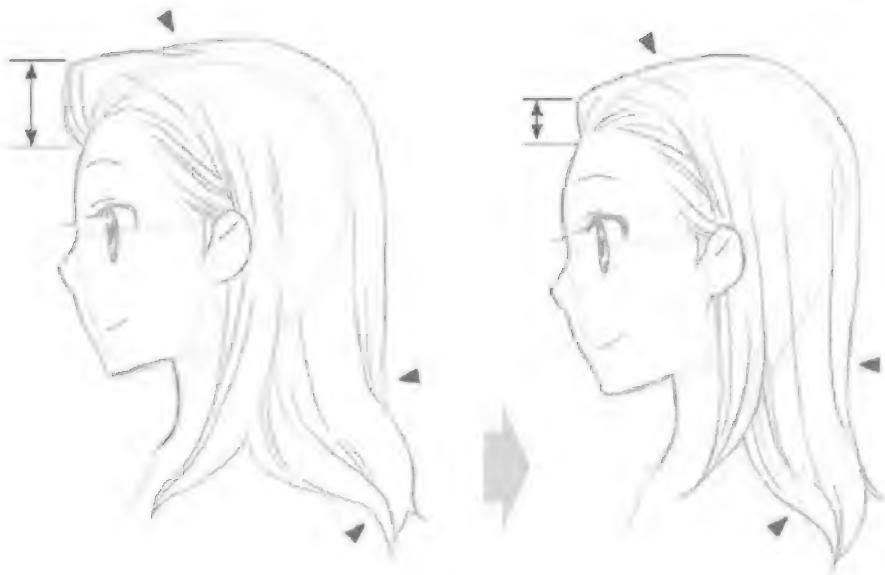
Reference: Key points to draw M shape hair
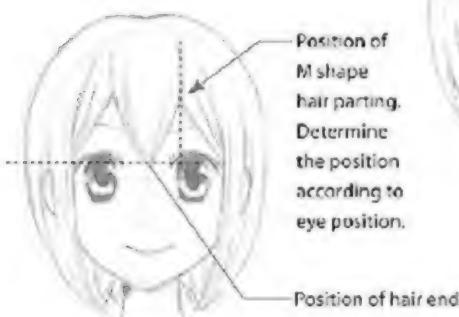
Position of M shape hair parting. Determine the position according to eye position.

Position of hair end

In drawing the 3/4 side, we will make the figure look more handsome if keeping the hair a bit longer at the center. In this way, draw up faces at different angles to determine the figure design.

The extent of forward fluffy hair shade.
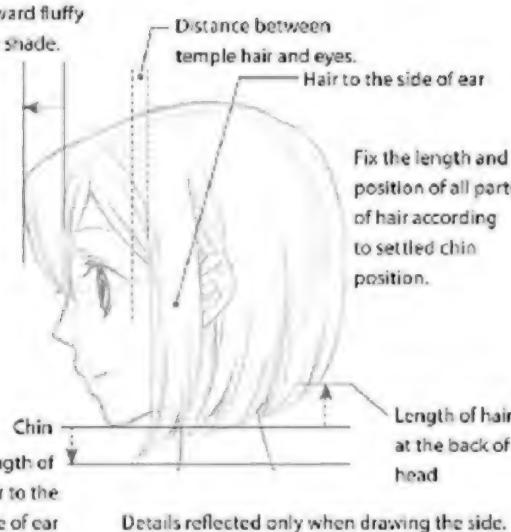
Distance between temple hair and eyes.

Hair to the side of ear

Fix the length and position of all parts of hair according to settled chin position.

Chin

Length of hair to the side of ear

Length of hair at the back of head

Details reflected only when drawing the side.

Issues to consider when defining hairstyles

The appearances must be able to reflect the personalities of figures. Design hairstyles according to their first impressions to people (common understanding) to make the figures more easily recognized.

Design hairstyles according to figure personalities

● **Introverted type figures, looking quiet and virtuous**

Cultivate the image with covering, hiding and indistinct modes.

The hair covers over the forehead and ears.

Long hair
Express straight hair with converged curves (a feature of introverted type of hairstyle).

※Not the gloomy type, but often remind people lack of vitality.

Drooping thick hair shade reminds people of concealment.

● **Extroverted type figures, looking healthy and passionate**

Cultivate the image with exposure, revelation and outgoing dynamics.

Expose ears and forehead.

Short hair
Hairstyle fit for extroverted personalities.

※It leaves an open and vigorous impression, though the figure is not always so.

● **Middle type**

Expose 1/3 forehead.

The hair is largely medium and long, with inward and outward lines.

The ears are basically exposed, while shaded with a few hairs. It creates a medium-type impression.

Such a design is not reserved for fixed personalities. Painters may endow the figure with proper personalities.

● **Medium and introverted-oriented type – want to conceal but also expect exposure**

M shaped type (draw long hair among eyebrows)

Cover one eye

● **Medium and extroverted-oriented type – want to expose but also expect concealment**

Two ponytails, added with features of introverted type hairstyle.

Hairstyles matched with formal dresses

● **Basic type**

Hair bun in the back of head is worn into five to six bundles.

It looks a bit complex. But it is actually composed of single curves.

The hairline trends keep the same as the ponytail, expressed with multiple lines to create sense of solemnity.

Comb all the hair at back of head, creating formal impression.

● **Advancement expression technique**

Add up flower ornament.

Decorate with metal hair ornaments embedded with gem stones.

Draw up the accessories.

Before modification.

Add up small rolls at hair ends.

● **Diverse changes**

Bend down one half of the front hair.

Decorate with thin hairpin with butterfly tie.

Decorate with gorgeous butterfly tie.
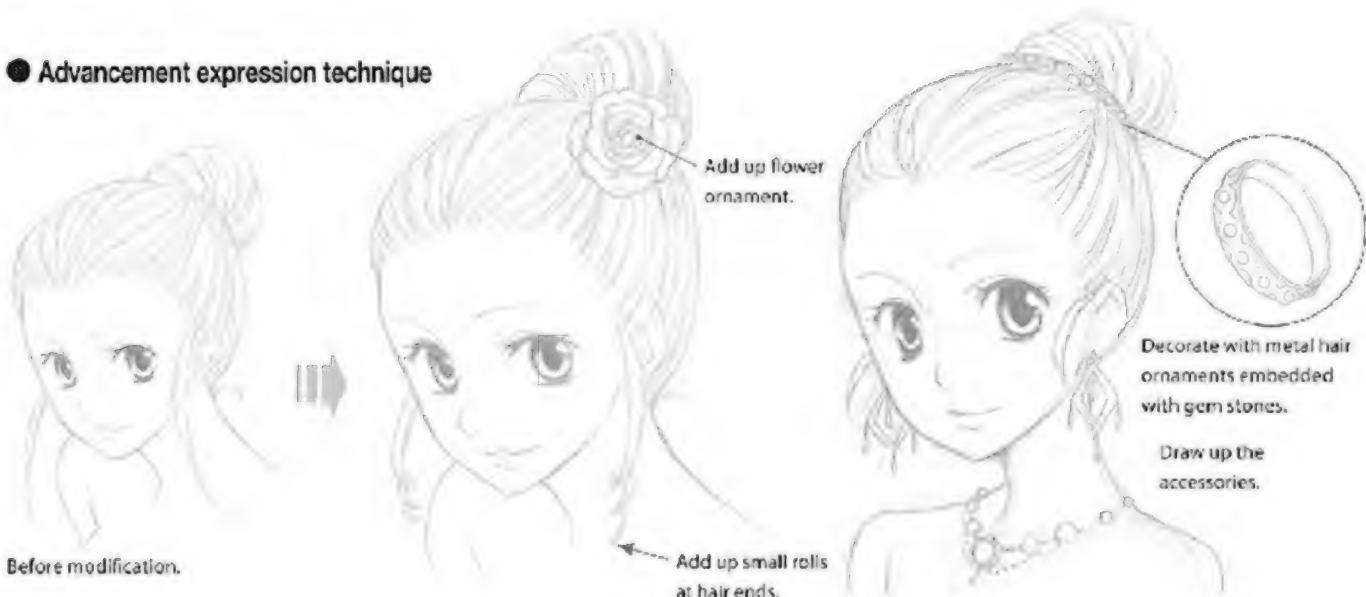
Hairstyles appearing only in cartoons ~ Exhibit head design of figure ~

● Changes in hair forms

Hair turns into snake.

Hair becomes flame.

Draw up the head form earnestly as a basis in drafting the head.

Hair melts into water (liquid).

Wear a hat.

● Add other stuff upon the hair

Horns

Antenna

In drawing up horns and beast ears, remember to balance height in the left and right. Consult to the technique of drawing pigtails.

Rabbit ears

Cat ears

Chapter Three
Drawing Body

Learn about body structure

Draw up attractive body

Exhibit female body charms with twists and curves.

Draw up curves

Human body is constituted of curves. So, contours are all curved lines.

Curves from neck to shoulder

Shoulder

Arms

Chest

Trunk curves

Thigh

Thigh root
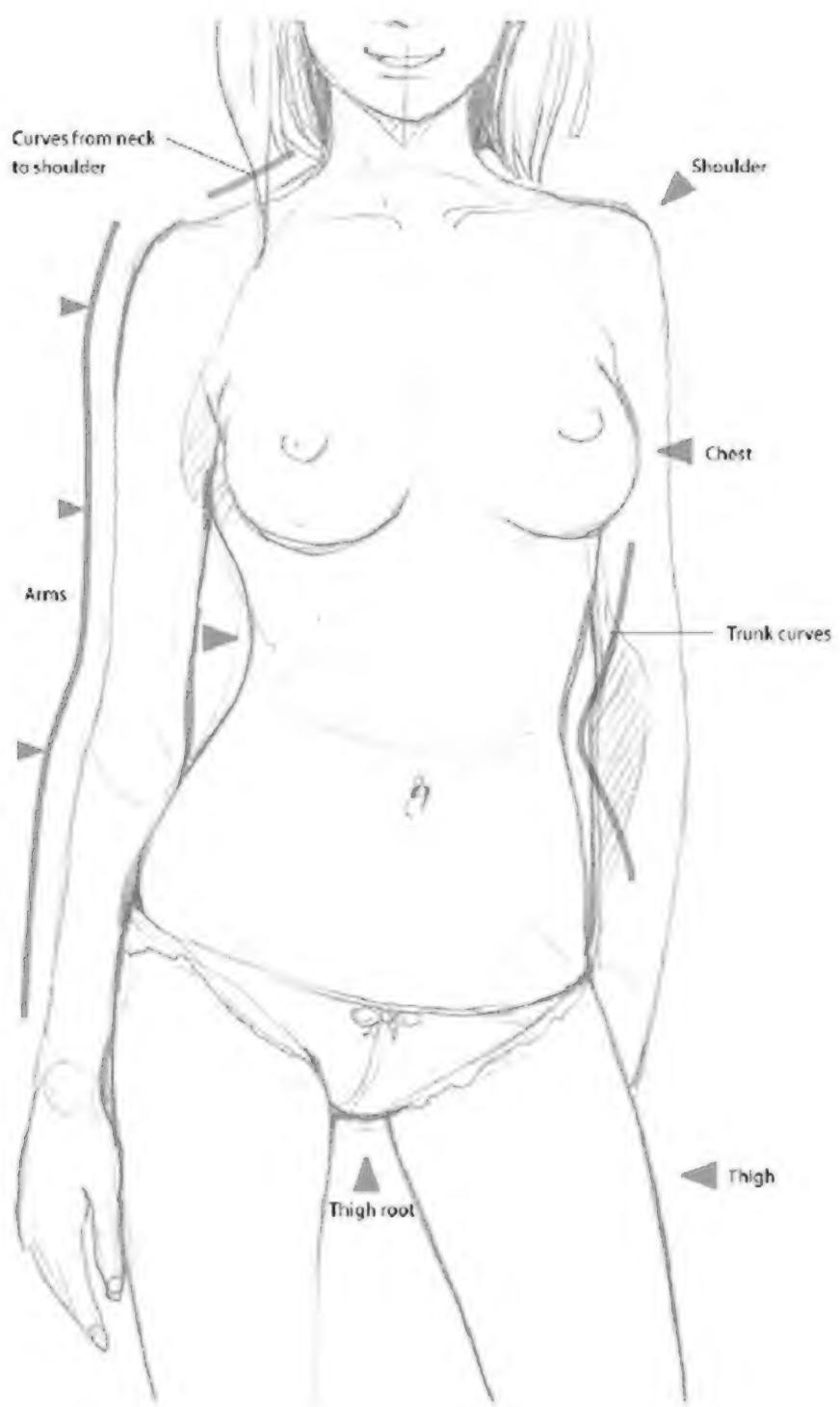
● Human body is cylinder shaped

Many curves.

Draw up the body under graph structure.

All the body parts may be drawn under cylinder shape.
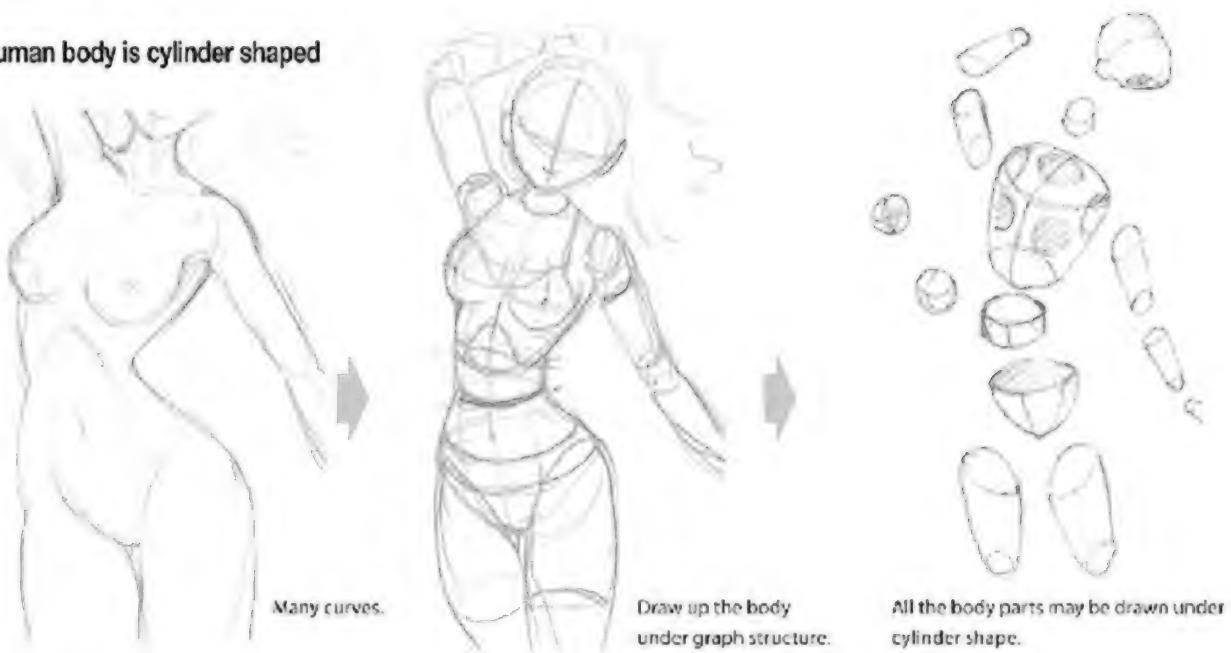
● Flexible curves

Stretch and retract in waist

Tilt

Trunk

Chest

Waist

Pelvis (buttocks)

No deformation in chest
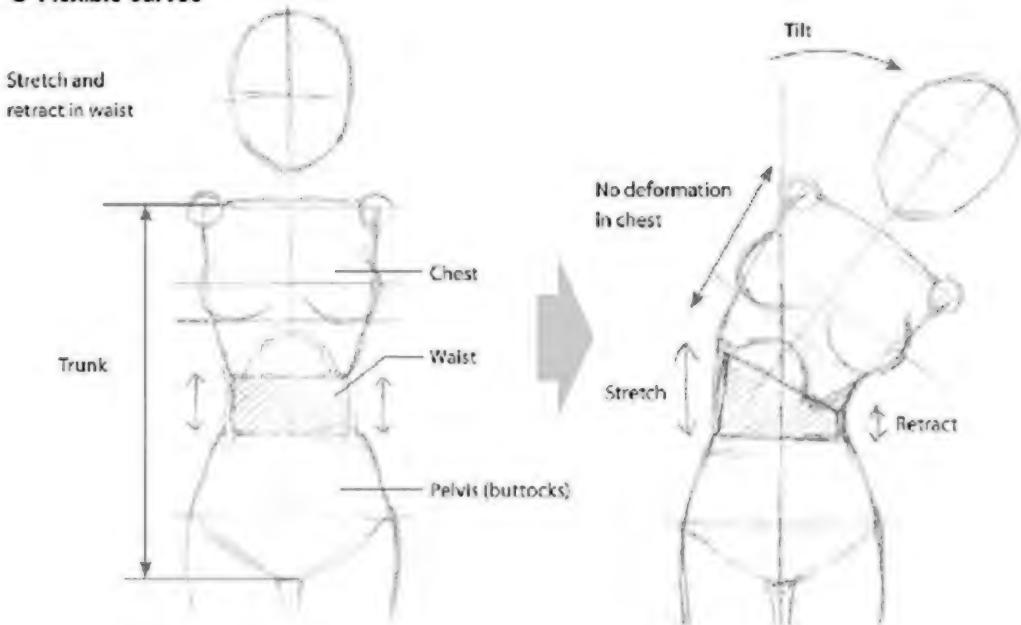
Stretch

Retract

Stretch and retract around neck

Raise up arms and shoulder joints.

Retract

Keep stretching

Raise up both arms.

Chest is lifted to stretch a bit.
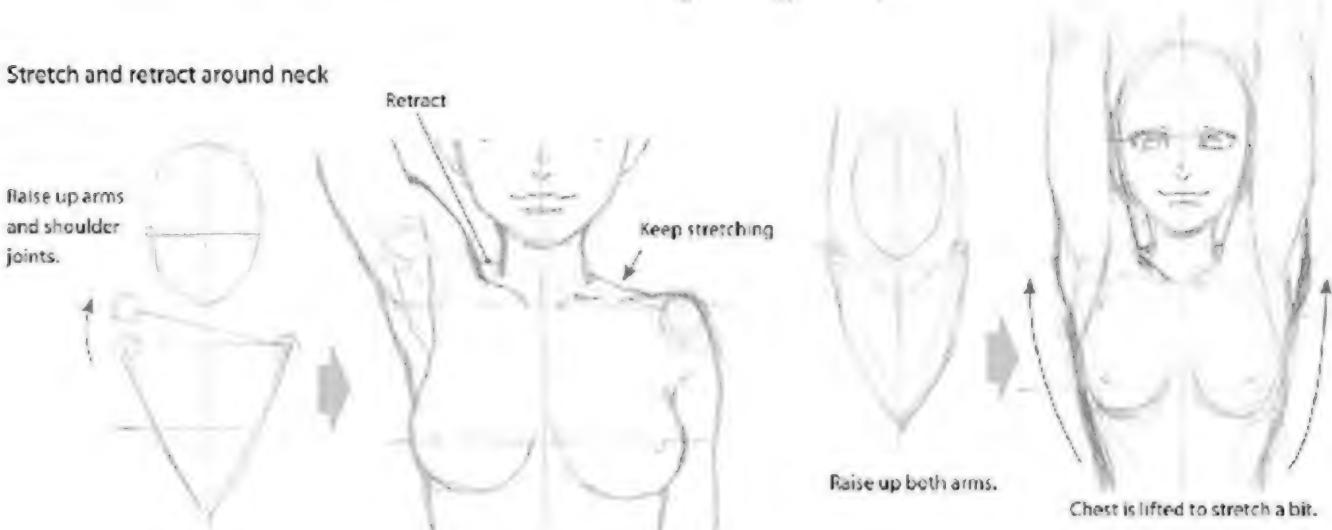
Body structure and part names

To draw up the body well, it is essential to grasp the forms of body parts, and related names and dictions.

Front

Collar bone

Breast

Pit of stomach

Navel

Lower abdomen

Pelvis line. Widest part of pelvis, protruding part.

Trapezius muscle. Parts of body to stretch or retract according to shoulder movement.

Shoulder line

Upper breast line

Breast line

Lower breast line

Parts of waist to stretch and retract

Upper chest

Waist

Loin

Pelvis (buttocks)

Body amplitude

Shoulder joint is outside of the trunk.

Hip joint (tight root) is inside the trunk.

Back and front side

Neck root

Shoulder

Shoulder blade

Spine

Rib

Lower end of
shoulder blade

Lower chest, lower
end of shoulder
blade.

Trunk
length

Rib line. When it is
drawn, rib line may
help fix the thickness
of body side.

Waist

Buttocks

Position of
Thigh root

Rough sketch
of trunk

● Position of shoulder blade

If the figure is
thin, it will take
on a V shape.

Shoulder

Middle position
between shoulder
and waist.

Waist

● Relations of shoulder-chest-pelvis line

Parallel shoulder
and chest line

Shoulder

Chest line

Stretching or
retracting the waist
will make pelvis line
and shoulder line
unparallel. This will
create a sense of
movement.

Pelvis line
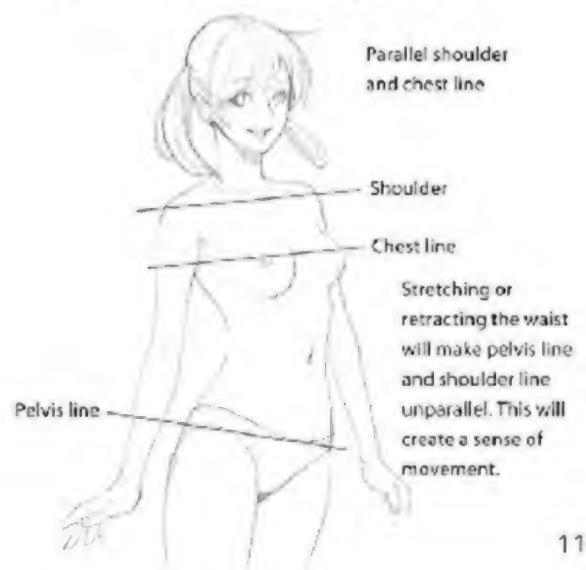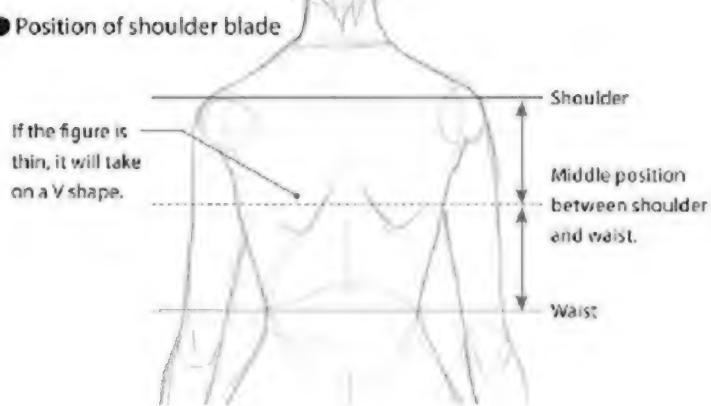
Make the upper body and arms more charming

Human body (trunk), arms and hands are basically cylinder shaped. Joints connect these cylinders. They are expressed with circles.

Upper body drawing technique

Draw up thickness of trunk. The neck, arms and legs and extension of trunk thickness.

● Structure draft for drawing

Draw up curves in the direction of arms.

Trunk contour line (raised chest may be treated as a solid part attached to the trunk)

The chest, rib and arms are connected.

Neck root

Arm root

Fix the curve from elbow to forearm.

Oval reflecting trunk thickness.
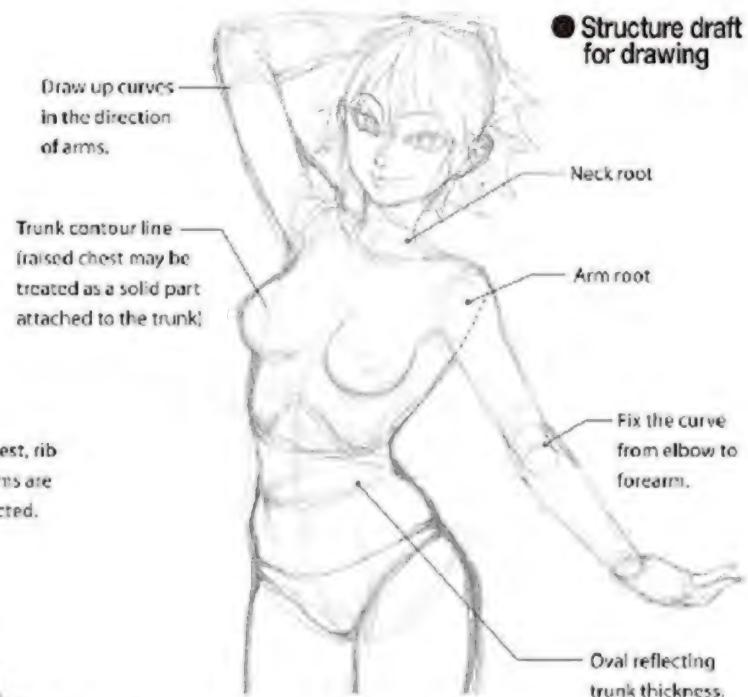
● Key points to drawing steps

Centre line. It is a key point to decide figure posture.

①Decide the posture.

Body seen from the top

This curve line is also the side line of underpants, to reveal the stereoscopic impression of lower trunk.

②Roughly draw the outline of body parts to find out stereoscopic impression (upper part and lower part).

Realize muscle fluctuations and practice to draw up body contour.

The contour lines will change along with twisting of arms.

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Structure – connect neck, shoulder and arms

Join up collar bone and shoulder.

Put palm skywards.

Shoulder

Elbow

Wrist
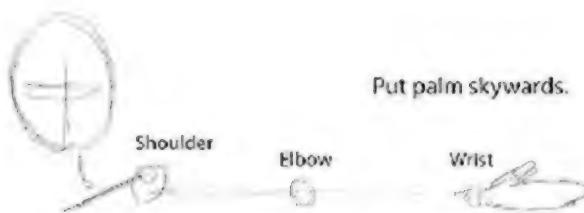
Reverse the palm to have back of hand upwards.

The arm curves do not change much when the palm is put skywards.
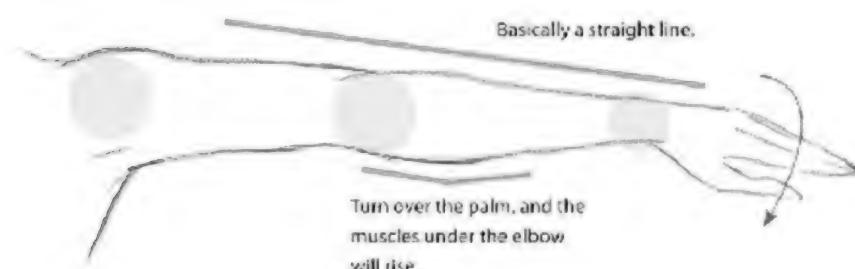
Basically a straight line.

Turn over the palm, and the muscles under the elbow will rise.

Moderately uplifted curve.

Moderately sunk curve.

Elbow

Thick arm root

Arms are basically cylindrical. The contour line will change with twisted wrist.

Learn relationship of shoulder and
arm with inconspicuous errors

✕

Error examples

→

Correct errors

O

● Reason

The face, body
and arms are
in inconsistent
direction.

The curve should
not sink here.

● Countermeasure

Relative to the face,
the body will look
natural in this way.

The arm line is a
protruded line.

Stressing arm muscles
will make the structure
more explicit, but the
figure will look strong in
the picture.

Learn arm lines with inconspicuous errors

Error examples

● Reason

Unnatural elbow position and muscle lines.
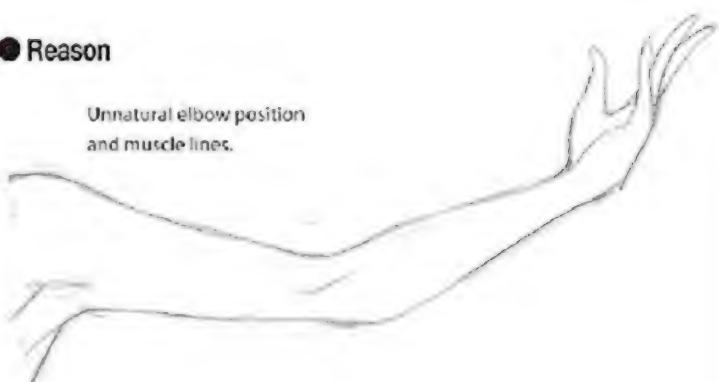
● Countermeasure 1
Flexibly treat hand posture

Modify arm lines.
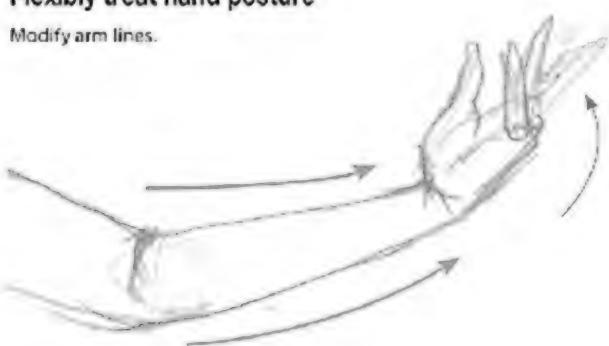
● Countermeasure 2
Flexibly handle arm lines

Change hand posture and arm line direction.
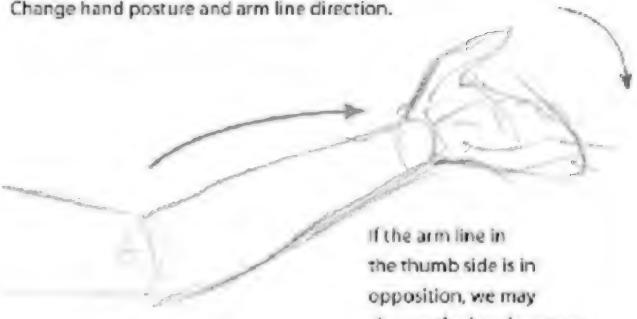
If the arm line in the thumb side is in opposition, we may change the hand posture according to the arm line.

Modify it with countermeasure 2.

Same modification is applied here.

Find out the lines around the arm

● Normal angle

Emphasize arm muscles with sunken curves.

Draw small dots at protruding arm curve to make it look slender with muscles. It helps to make the figure lovely.

Shoulder muscle

Circle at the shoulder

Under the rib thickness of arm root

● Overlook perspective

Up, express the thickness of trunk.
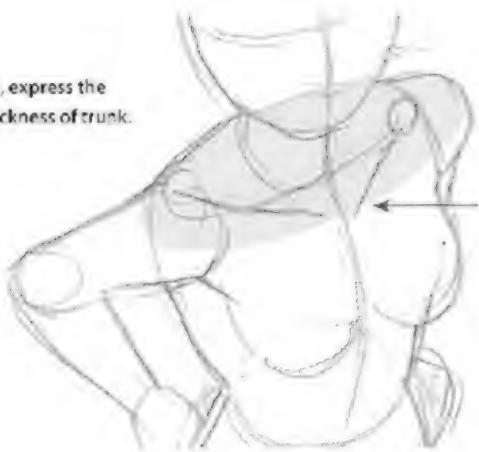
Collar bone may be used as benchmark to reveal trunk thickness.

Draw up shoulder curve.

Shoulder without curve lacks the look of stereoscopic impression.

● Shoulders of different impressions

Join up shoulder curves and arms smoothly to make the figure look mature.

Narrow the shoulder curve slightly to connect the arm, making the figure look young.

Technique to draw hand

Structure and proportion

● Proportion of back of hand

Fingers

1/2

Curve here

Palm

Fingers draw together. The finger root joints may also be drawn as fingers.

The knuckles on the back of hand take circles as benchmark. The finger roots of palm are shown with palm prints.

Hold the hand into a fist. Fingers are normally not parallel and level.

①Big outline

②Decorate hand pattern and draw up fingers.

● Proportion of palm

Fingers

1/2

Palm

Finger length as seen from back of hand.

Curve here

Palm length as seen from back of hand.

Fingers are basically as long as the palm.

①Big outline. Draw finger root with curves.

②Draw up palm print when fingers are bent.

Palm print when four fingers are bent.

Palm print when thumb is bent.

⊕Four fingers refer to the fingers except for thumb, which are the index finger, middle finger, ring finger and little finger.

The length relations of palm and fingers vary from person to person. The proportion in the right illustration is standard. It may be used as a benchmark in drawing.

● Technique for drawing 1   Find out finger joint

Look at the hand from the back of hand, find
out finger root joints, and draw it up.

Draw up little circles
to ensure finger
thickness. Remember
the little circles are
basically same sized.

The circles for the four finger
joints are lined in arc.
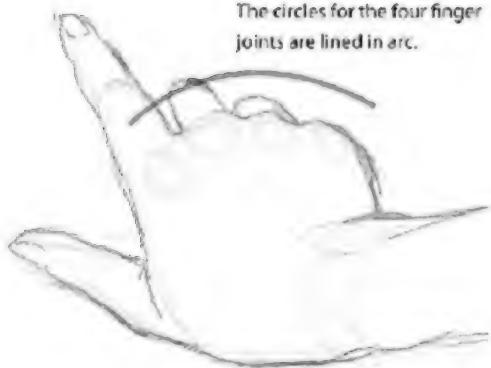
● Technique for drawing 2   Find out the blocks

We cannot see finger root joints from the palm side. We
may display the position of bent fingers with palm prints.

Bent palm prints

The bent area is a
block rather than
a line.
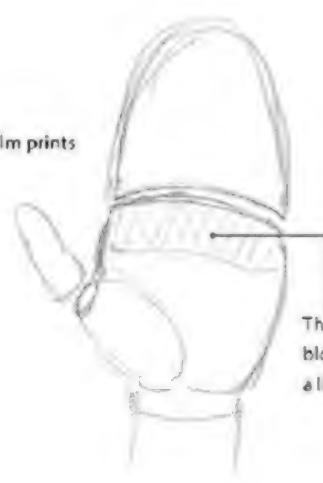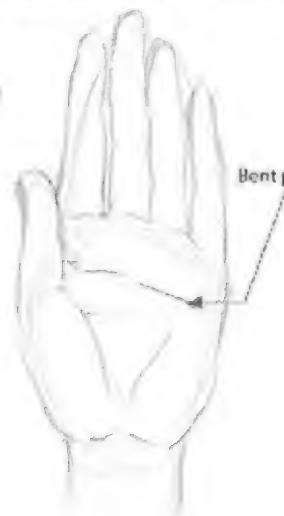
● Technique for drawing 3   Draw up thickness

Back of hand looks arched.
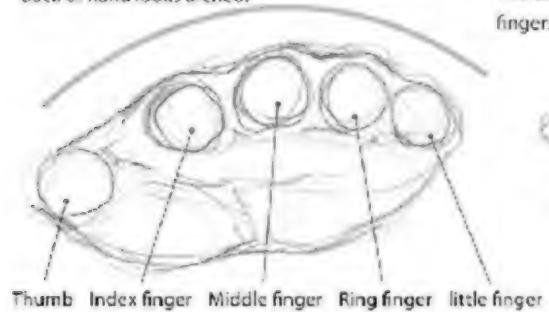
The basic contour of
fingers is cylindrical.

Thumb   Index finger   Middle finger   Ring finger   little finger

The section of
wrist is oval.

Hand gesture

● **Opened slightly**

Imagine the hand as an oval with smooth outline in drawing.

● **Hand seen in the front**

Draw the big outline with curves of basically same radian measures as benchmark.

● **Hand seen in the front side**

The contour of back of hand is also a curve.
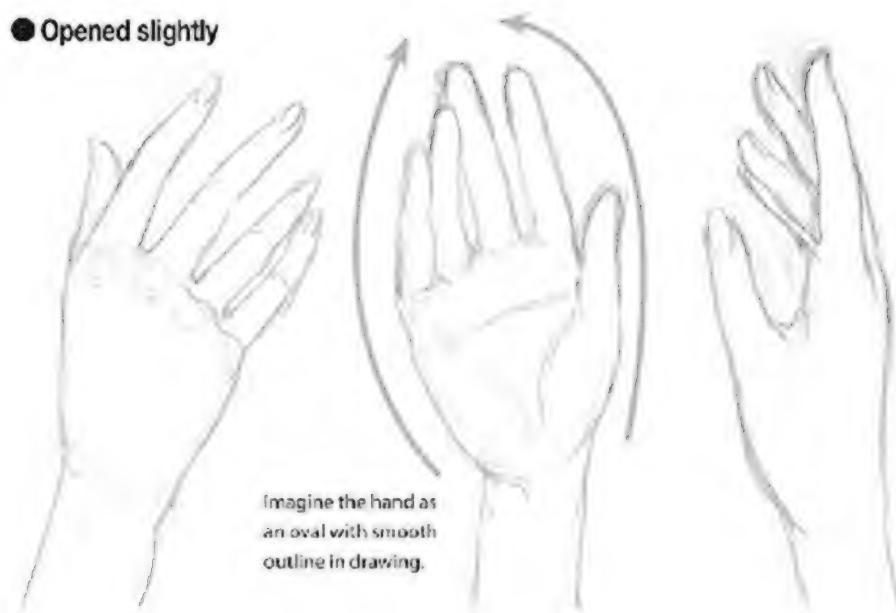
If the whole palm is supported, the contour will become straight.
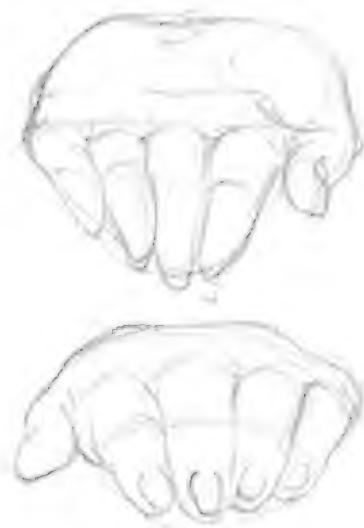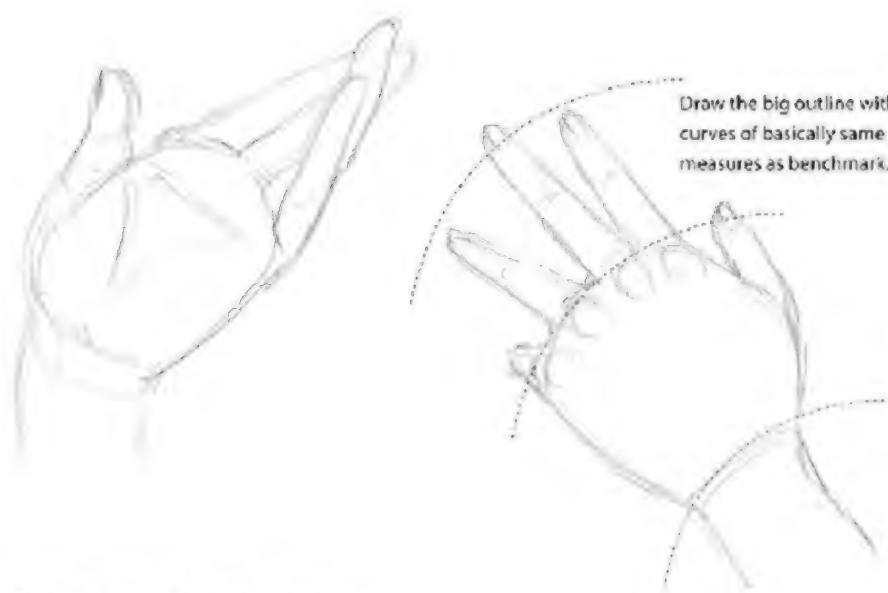
● **Hand with extended fingers**

Curve direction will not change.

Finger curves are in opposite direction.

● Erect fingers

Stretch fingers
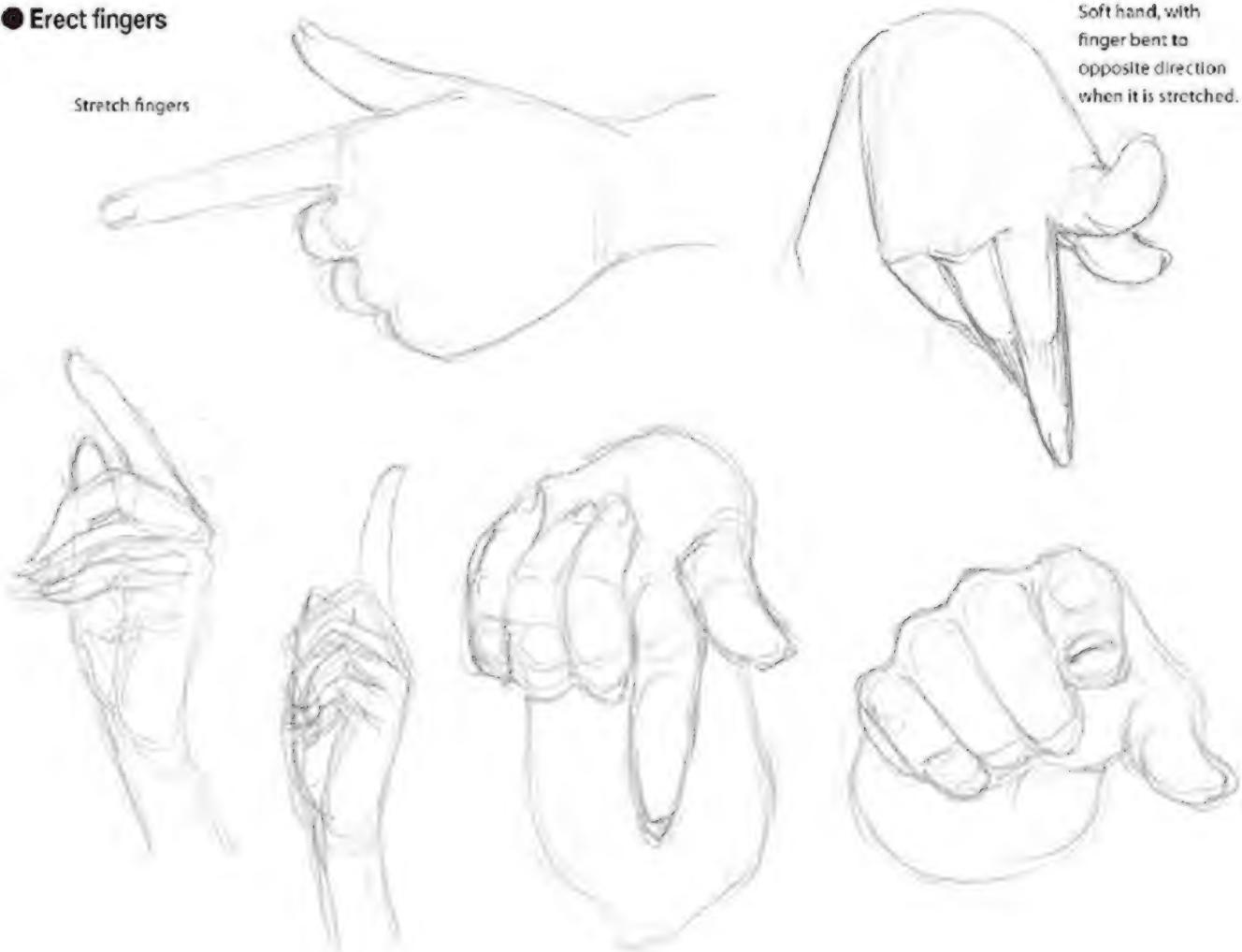
Soft hand, with finger bent to opposite direction when it is stretched.

● Hold the hand gently

Little finger will tilt a bit, because the hand is not held tightly into fist.
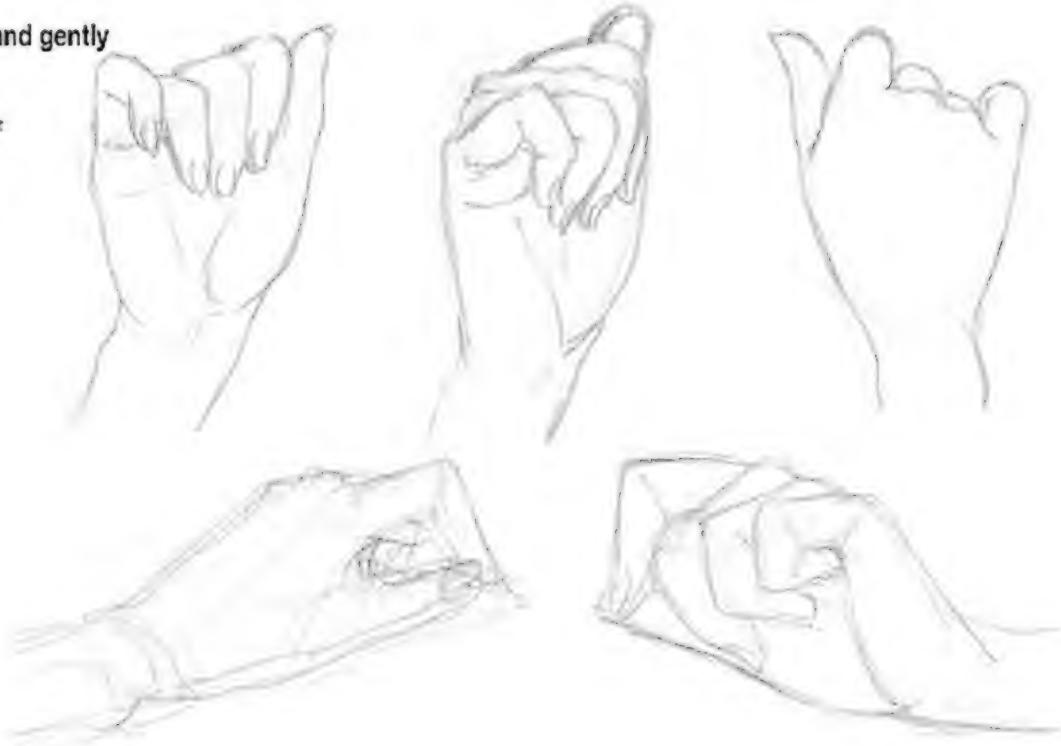
Expressions of hands

Request

Draw the hands square-like.

Draw the hands a bit smaller when they are used to cover the mouth, to make the figure lovelier.

Draw the hands a little larger when they are bitten, to stress the action.

Draw in the direction that fingers bend.

Yawn

Draw up outline for the hand hidden beneath, so as to more easily fix the size of the hands.
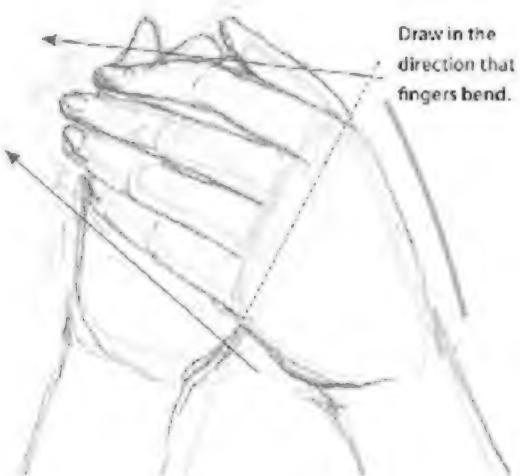
Clench one hand into fist to display uneasy feeling.

Hold up a book

The palm needs to put forth strength to support the book, with little finger and ring finger close together.

Put the hand near the ear (to listen carefully)

● Revelation of fingers

Draw up white line at one side.

Stretch the fingers to look smart.
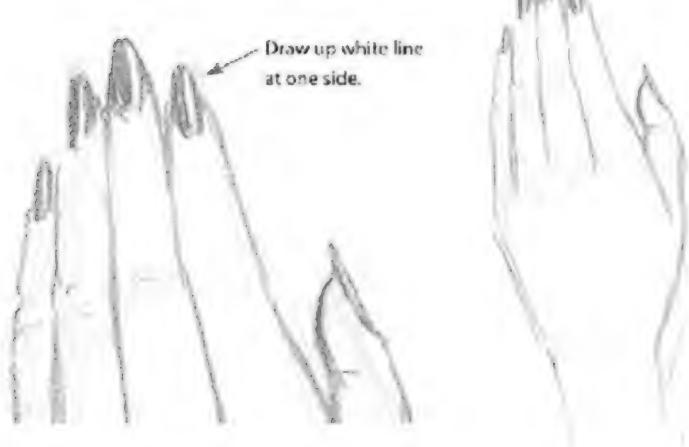
Beautified nail looks square.

Painted nails, and finger with shining diamond ring.

● Fold hands
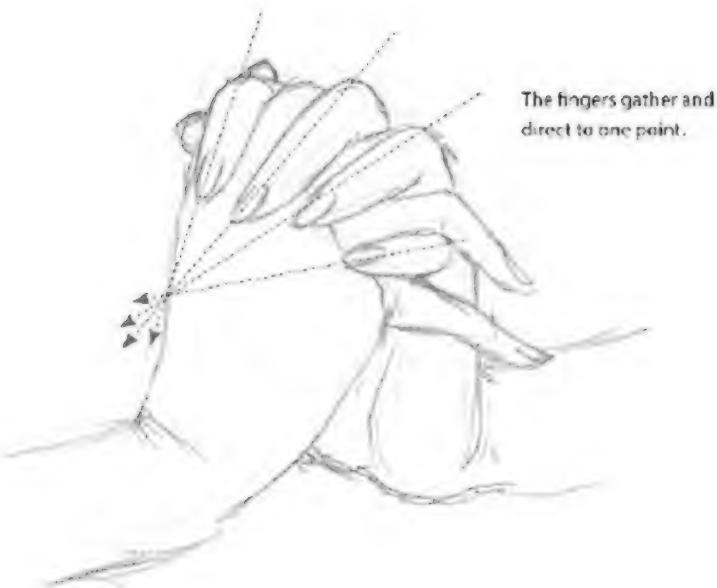
The fingers gather and direct to one point.
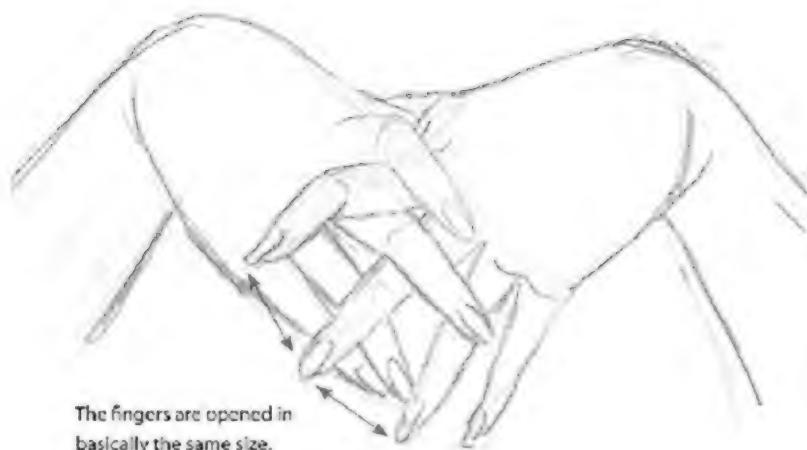
The fingers are opened in basically the same size.

Finger tips are visible.

We need to draw up big outline of the covered hand to fix the position of finger tips.

● Support the chin

Finger tip tilts in opposite direction.

Three fingers in the inner side.

Two fingers in inner side + shadow

The finger at the forefront

Fingers in radiating directions.
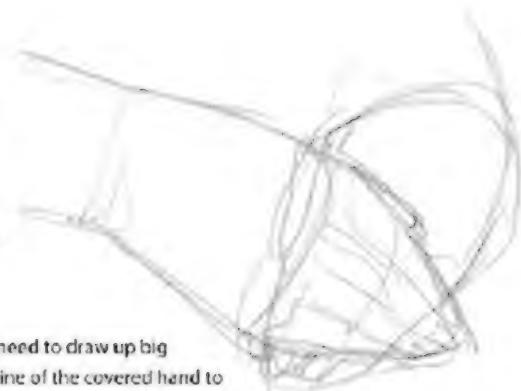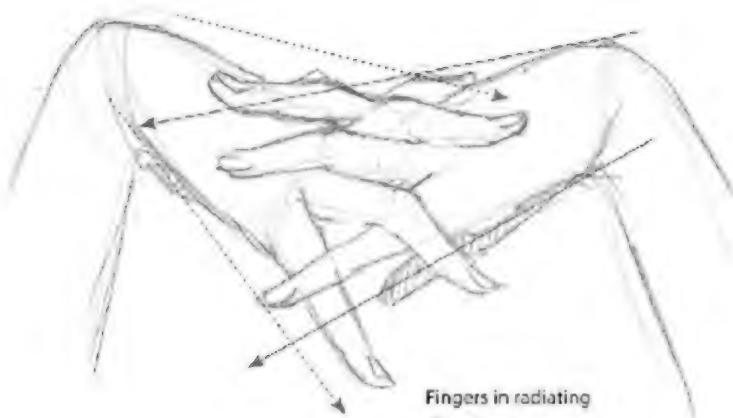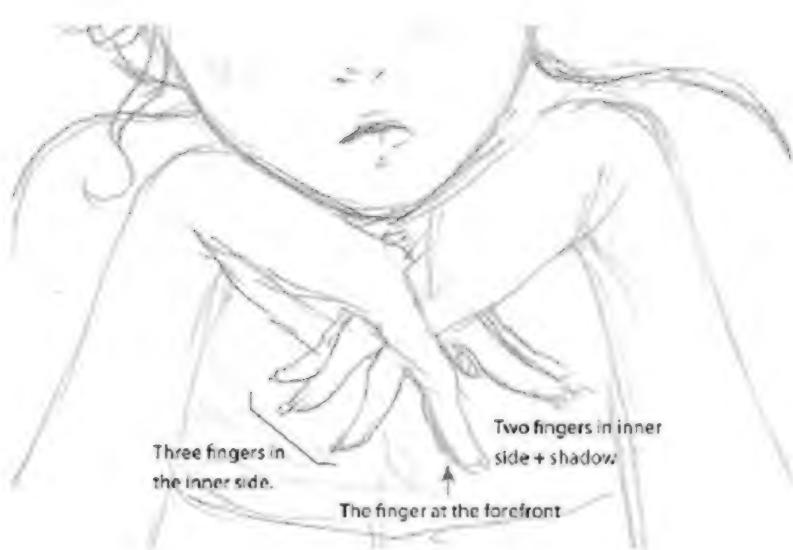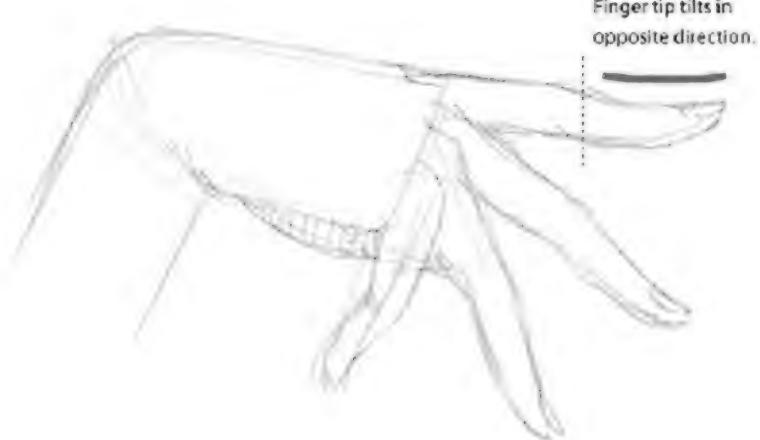
Draw up sexy chest

The chest is a key symbol to be female body gesture.

Chest structure and features

Chest lines and chest position. They vary according to head and body and size changes.
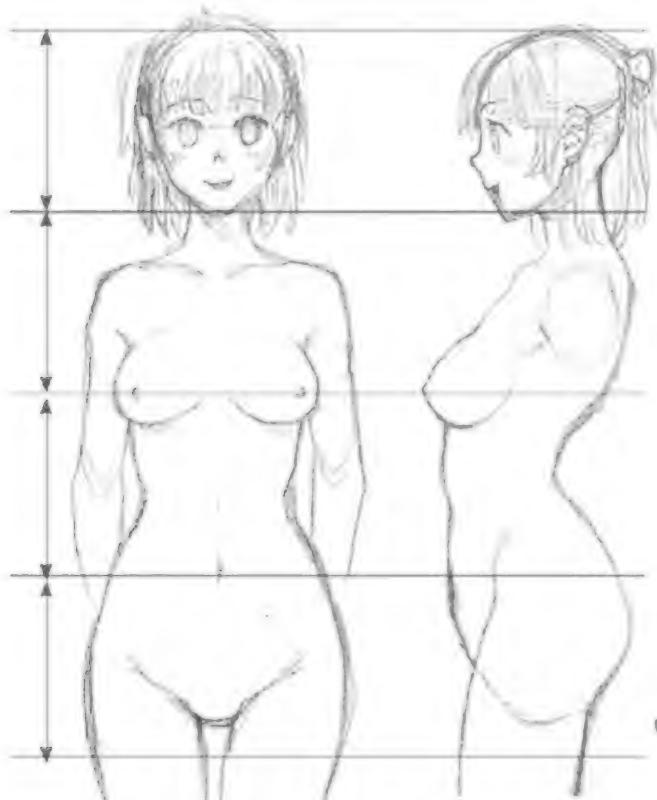
Fix the position

The chest position is about one head under the chin.

The type with lower chest line at one head under the chin.
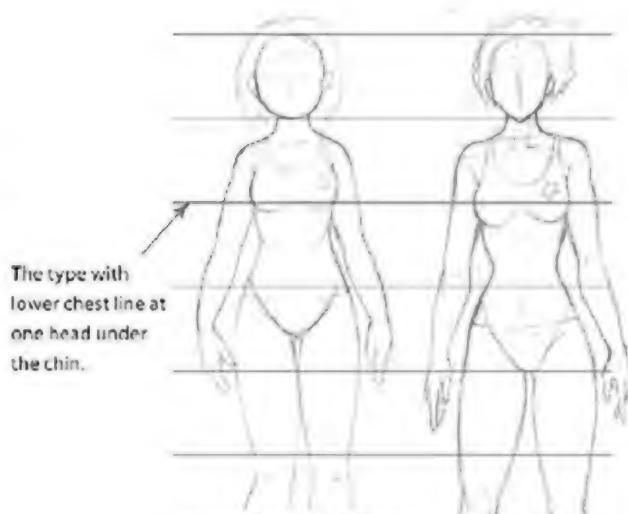
The positions of chest will vary if the head-and-body proportions change.

Position to protrude

Upper chest line

Chest line
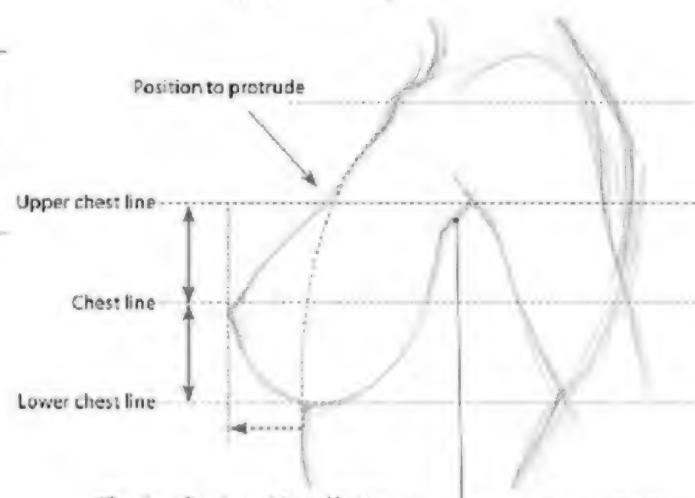
Lower chest line

The chest line is positioned between the upper and lower chest lines, with balanced proportions.

The chest lines are stretched to the ribs.

The line from ribs to the trunk.

Draw up chest line upon trunk contour.

The upper chest line is a reference line to settle armpit position.

They are drawn roughly in parallel.
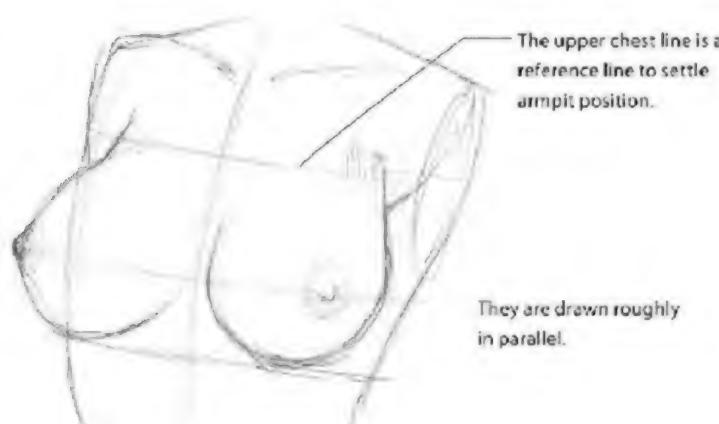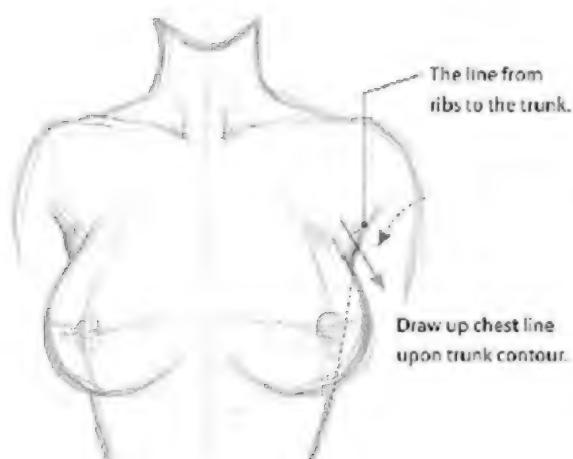
Draw up the chest

The chest (breasts) expands to the left and right from the centre line of the body.

Front

Expand outward

Draw up the centre line according to the protruding parts of chest. Nipples are positioned at the cross points of lateral and longitudinal lines.

Nipples

Draw in the low angle view.

Nipples

The chest will expand outward. The centre line of chest will tilt somewhat from the centre line of the body.

Centre line of the chest.

Centre line of the body
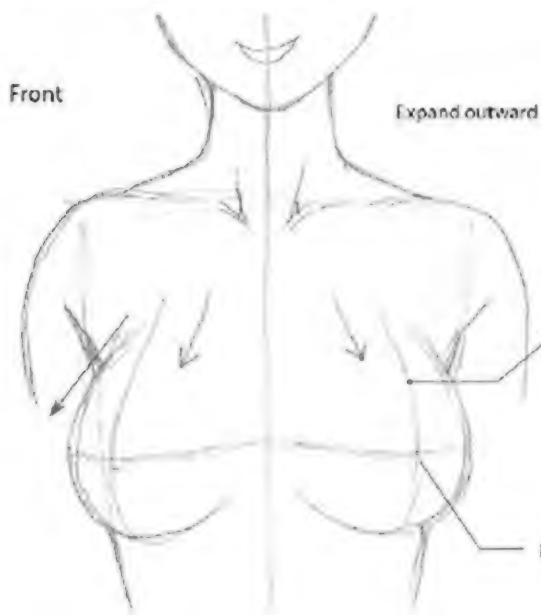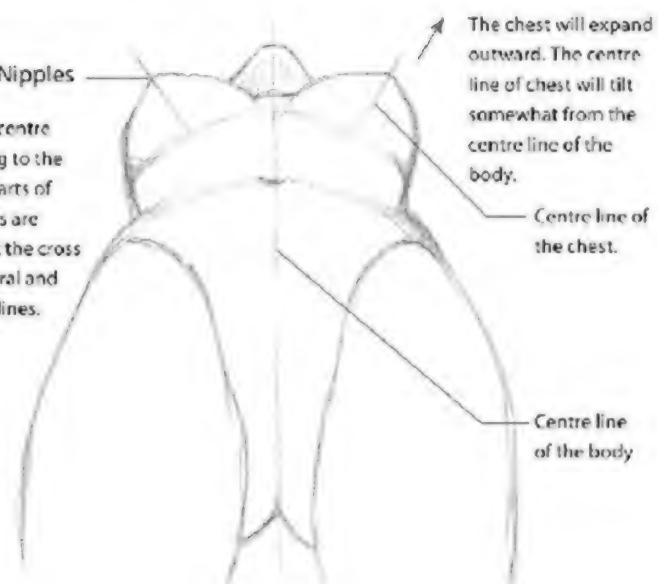
Draw in the vertically upper angle.

It is the same under the overlooking angle. The chest will expand outward from the centre line of body.

Low angle view

High angle view

Centre line of the body
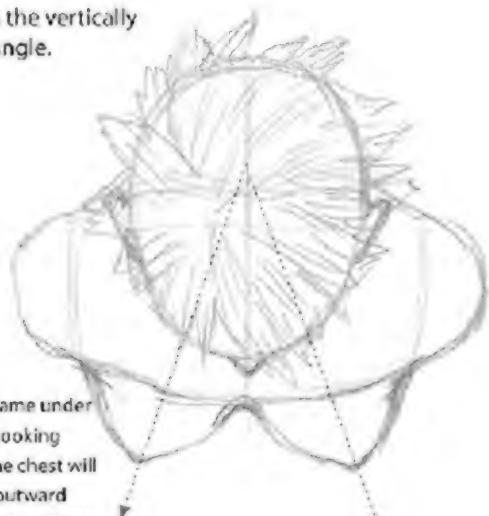
If the nipples are not equally high, the sizes of left and right parts of the chest will look different. Use the chest line and lower chest line as references in drawing.

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Different lines are applied in drawing according to the sizes of chest.

Normal type

Plus-size type

Plus-size type woman has larger chest than normal type woman.

The chest droops because of fullness. The lower chest line is a bit lower positioned.

The figure has more fat, so the lines connecting the armpit become thicker.

● Identical trunk thickness

Position of protruding upper chest line

Identical position of upper chest line

Few lines to connect the trunk

Long lines to display the size

Draw up nipples and areolas

The nipples and areolas may be seen as cylinders and roundness upon spherical surface.

Front

Front side
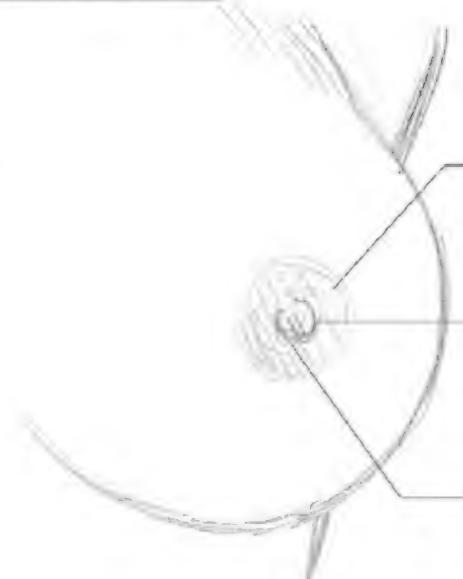
Areola

Nipple. The nipple tip is the tip of chest.

Since it is protruded, one half of the circle must be drawn thicker to reveal stereoscopic sense.

It is perfectly round as seen in the front.
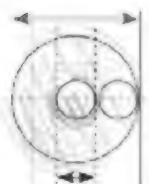
The diameter of areola is decided by the size of nipple.
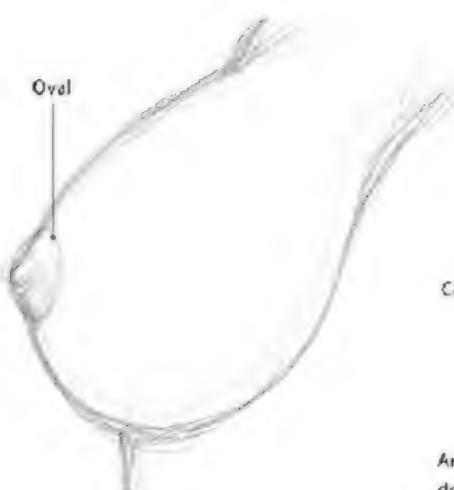
Oval

Centre line

Areola and nipple are ovals drawn according to the same lateral centre line.
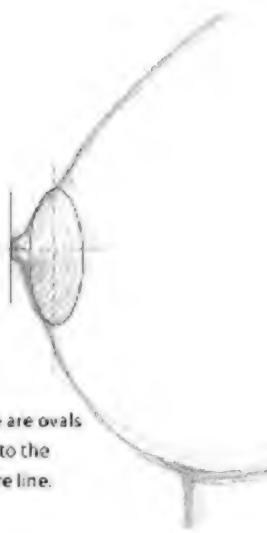
● Different sizes and shapes

Big nipple

Small nipple

Nipples and areolas fall into many proportions.

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Chest under various shapes

The chest may display various shapes according to the applied curves.

● 3/4 side

Small chest, with barely a curve for lower chest line.

Medium sized

Medium sized

Plus-size type

Plus-size type

Gorgeous plus-size type

● With underwear
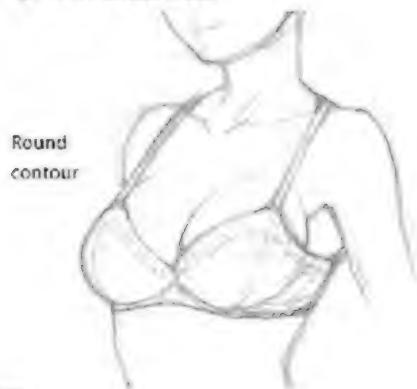
Round contour
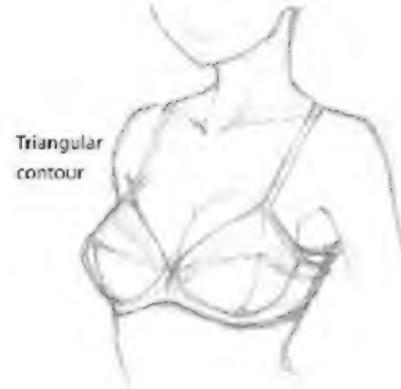
Triangular contour
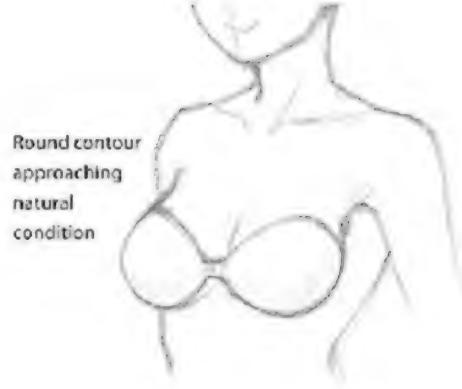
Round contour approaching natural condition

● Front side

Small and exquisite type · Medium sized

Plus-size type
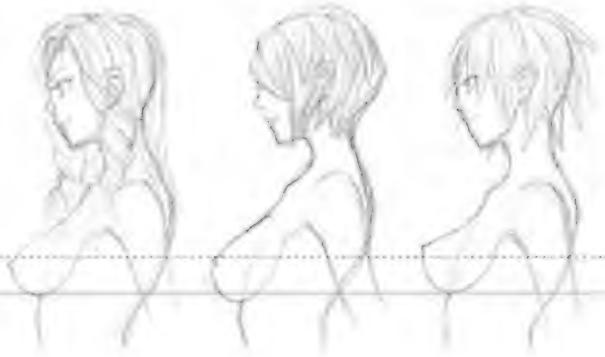
Small and exquisite type

Medium sized

Linear type chest
contour line

The upper chest
line is low.

The upper chest
line is high.

Few curves are applied
for quantity.
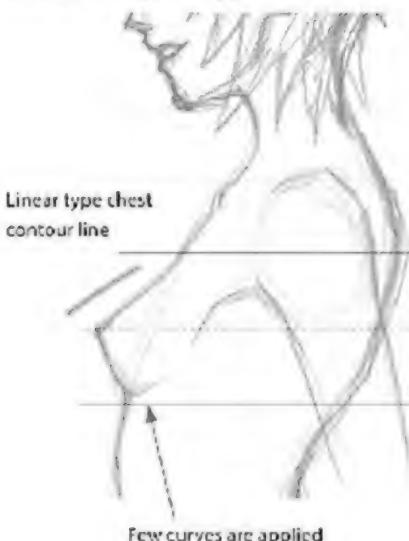
Plus-size type
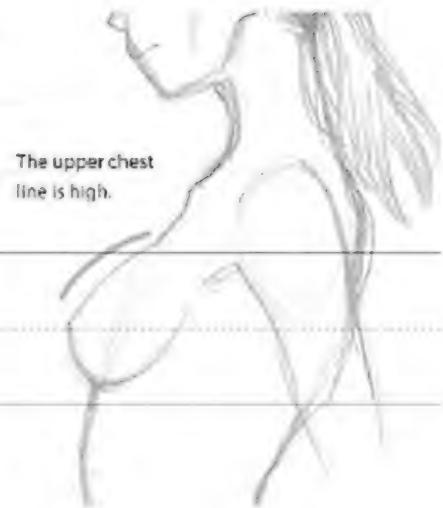
Curve warped
upward type
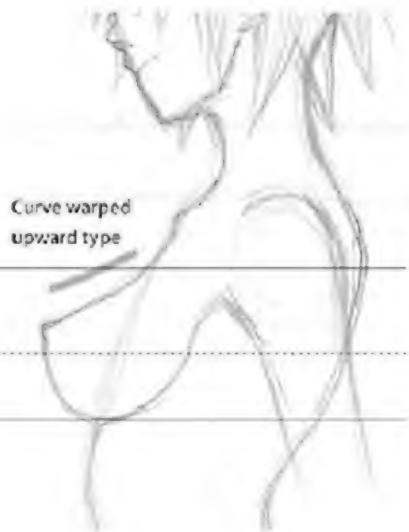
Protruding
forward type

Drooping type

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Chest movement

~ Shape changes from movement ~

The chest is made of soft fat. It will change in shape because of weight and force of inertia.

● **When the body tilts forward**

When the figure stands normally

The breasts may be stretched somewhat according to the sizes.

The nipples are fundamentally downward.

● **Squeezed by arms in walking**

When marching forward with wielded arms.

Turn into vertical oval.

Face the front.

The chest will be squeezed out for shape when elbows shove inward.

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● Jump up, to both sides, and in slanting direction.

Move upward
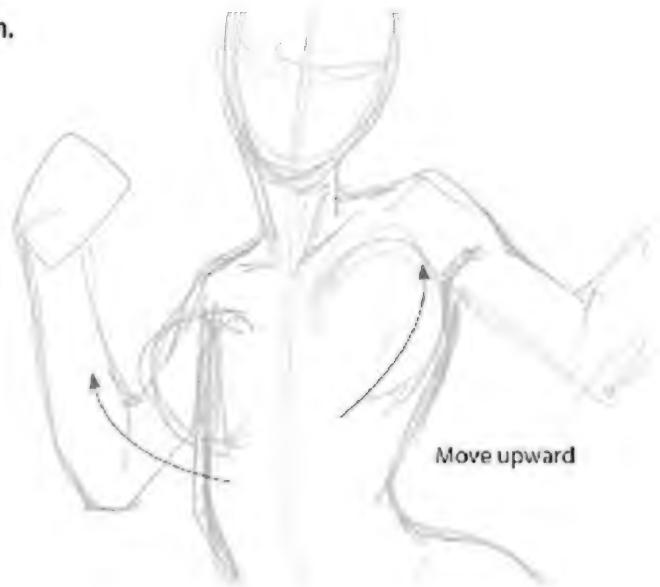
Move to one side

Move up and down
(cartoon-style
transformation)
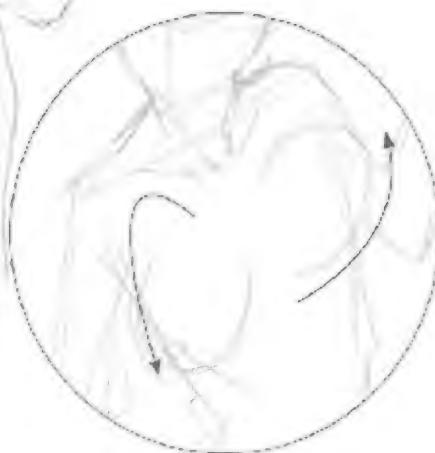
There will not be big
movement with underwear.

How to draw the chest more beautiful

It is a frequently applied technique in the fashion circle to highlight the chest line and offset female charms. This method may also be flexibly used in drawing.

Cleavage. It may be expressed in a fashionable way to display female charms.

The chest has no cleavage under natural undecorated state.

Change in shapes
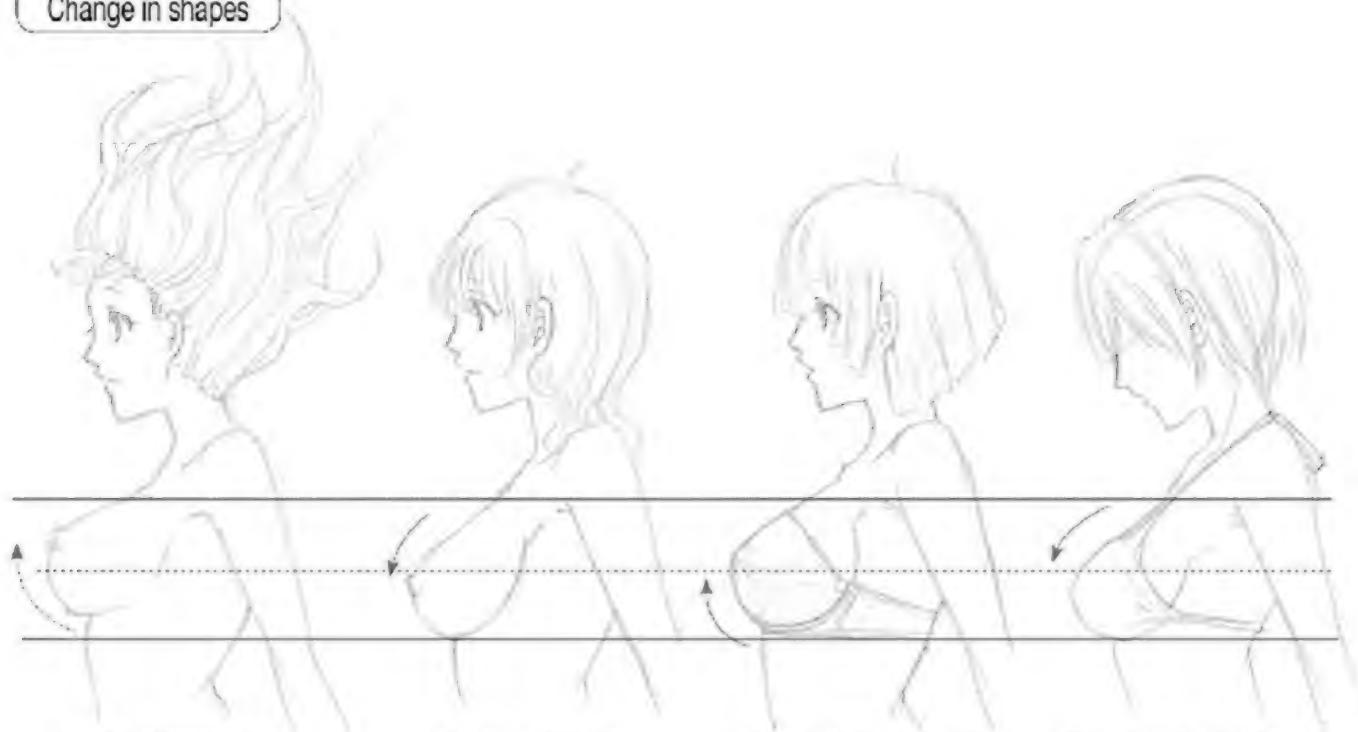
The chest looks like it's floating and ignoring gravitation.

The chest droops a bit under gravitation, with dimension size.

The chest shape is adjusted with underwear, as it supports the chest.

The chest looks lovely in swimsuit. There are many swimsuits to maintain natural state of chest.

Underwear

Underwear facilitates sport and helps to cultivate body shape. Therefore, it is referred as shape-perfecting underwear.

Under low angle view, the underwear line will change along with variation of body curve.

The radian measure is larger than the underpants curve.

Fundamentally straight line.

Slightly deflexed curve.

Shoulder girdle does not cling to the skin.

Press close to body

Produced with thick and solid cloth to cover nipples that are partly hidden and partly visible.

The cloth belt in the lower part the underwear is drawn into deflexed curve.

Cloth belt
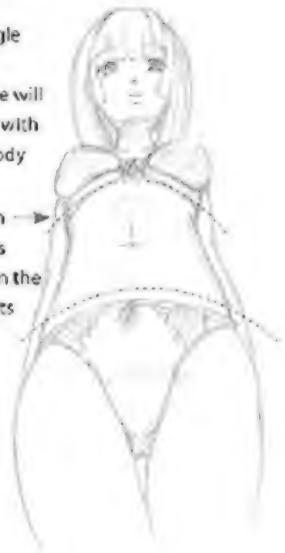
Decorate the brim with laces to make it more attractive underwear.

Back
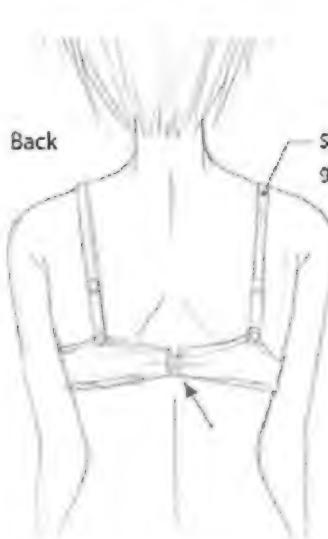
Shoulder girdle

Fastened with hooklets. Since the force point is small, there will be many petty wrinkles after it is stretched.

Underwear without shoulder girdle, or with shoulder girdle removed.

Underwear is sold at various prices according to the shape, size and materials. They are presented in multiple varieties.

● **Manifestations with underwear**

Normal manifestation
Most fundamental shape (sports underwear), with body-perfecting and protection performances to make the figure lovely.

Manifestation to reveal sensual appeal
Bind it up forcefully, and the chest will change in shape.

Manifestation of changing the shape
Fill in stuffing to change the chest shape.

● **Manifestation without underwear**

Display chest with shape wear.

Display the body with tight skirt.

Differentiate underwear and swimsuit

Underwear

Buckle with adjustable length

Divisional line

Seam line

Decorate with small butterfly tie.

Swimsuit

The cloth is incorporated, so the shoulder girdle and bra are drawn together.
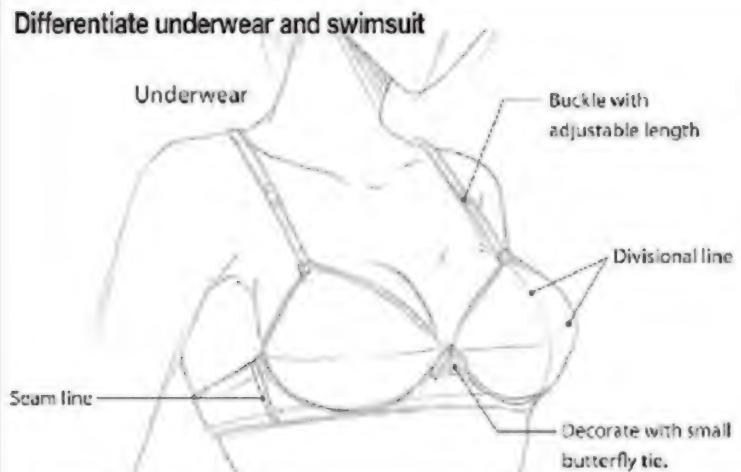
● Manifestation with wrinkles

With underwear

Without underwear
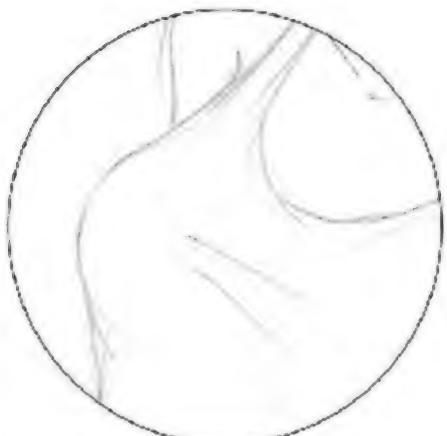
Bring forth the plump and soft chest with curves.

Embody the protruding nipples with crest line and contour of underwear.

● Effects of special props

Attach

Nipple cover

It may be substituted with band-aid.

Elegant and natural chest line may be made without underwear (collar opened to such a height will normally expose underwear).

Draw up enchanting back

Draw up the prostrate posture

The prostrate posture will fully display the charming back.

Initial point of soft back curve
Neck and shoulder

Stress the adducted
Waist

Stress the perfectly round
Buttocks

Hinting arm movement
Shoulder blade

Clearly displaying back movement
Spine

● The waist curve reflecting trunk dynamic tension may be roughly simplified into the "<" shape.
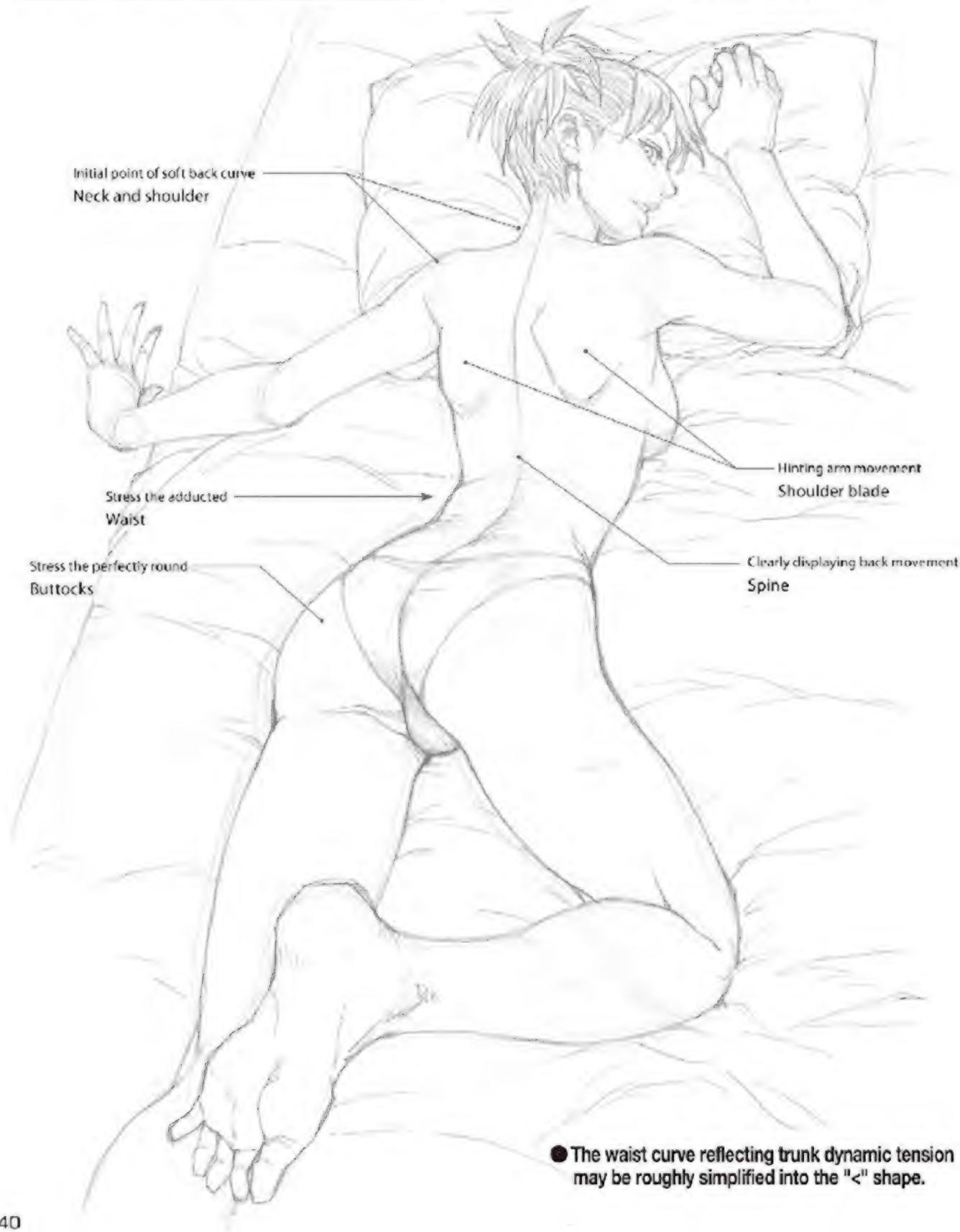
● Key points to draw up the back

Upper chest

Spine

Waist

Buttocks
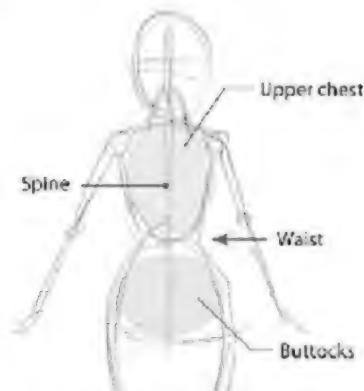
① Big outline. Find out the spine line and fix the position of waist according to head-and-body proportion.

② Draw up body thickness with oval and curves.

The back is drawn with S-shaped curve.
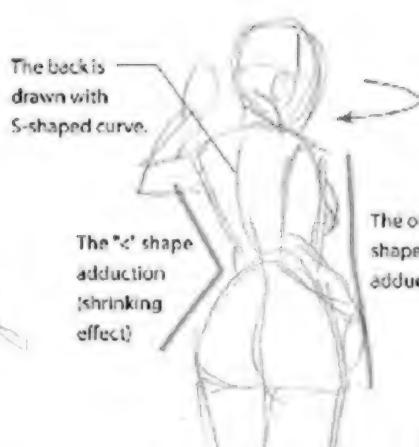
The "<" shape adduction (shrinking effect)

The other side of the "<" shape is basically not adducted (stretching effect).

In drawing the 3/4 side, we stress adduction of waist line at one side.

[Shrinking effect]
Highlight the < shape in the waist to bring in the tension of movements.

● Steps to draw the prostrate posture

①

Shoulder line

Spin-back centre line

Shrink

Stretch

Pelvis line

Draw up big outline
The shoulder line and pelvis line are not parallel, so the waist will experience considerable stretching and shrinking.

②
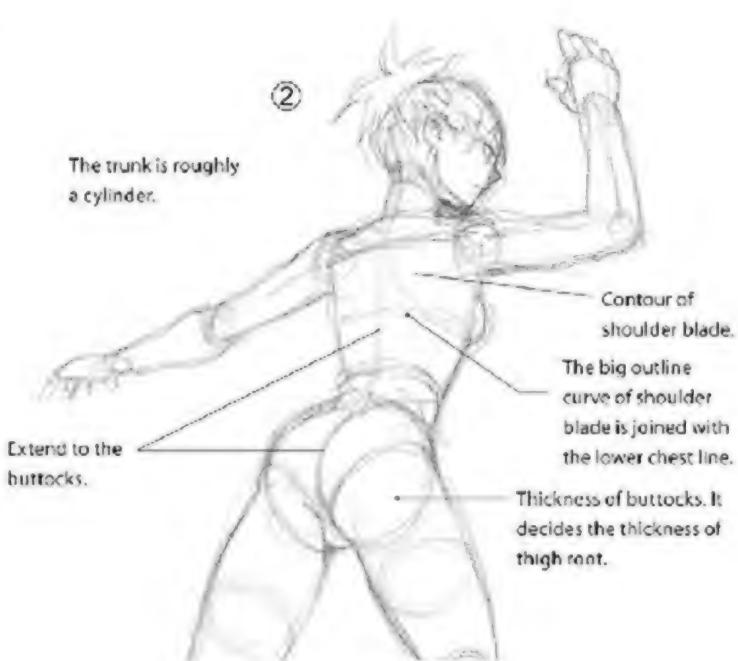
The trunk is roughly a cylinder.

Contour of shoulder blade.

The big outline curve of shoulder blade is joined with the lower chest line.

Extend to the buttocks.

Thickness of buttocks. It decides the thickness of thigh root.

③

Modify the contour form.

④

The lines need to turn. Draw up details and complete the drawing.

Revealing of the back

The back

Shoulder blade edge is slightly visible.

Embody the sinking spine.

Shrink in the waist The spine line below it may be omitted to create a clean and pretty back.

Shoulder blade

Waist
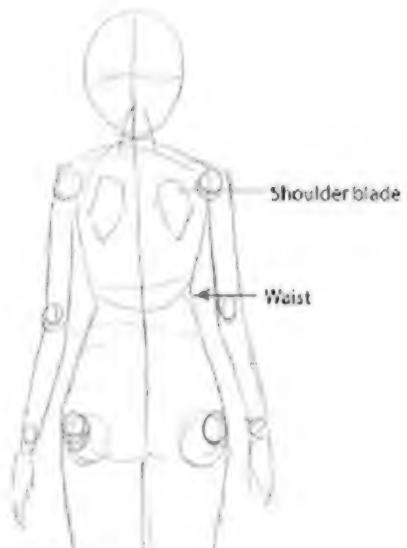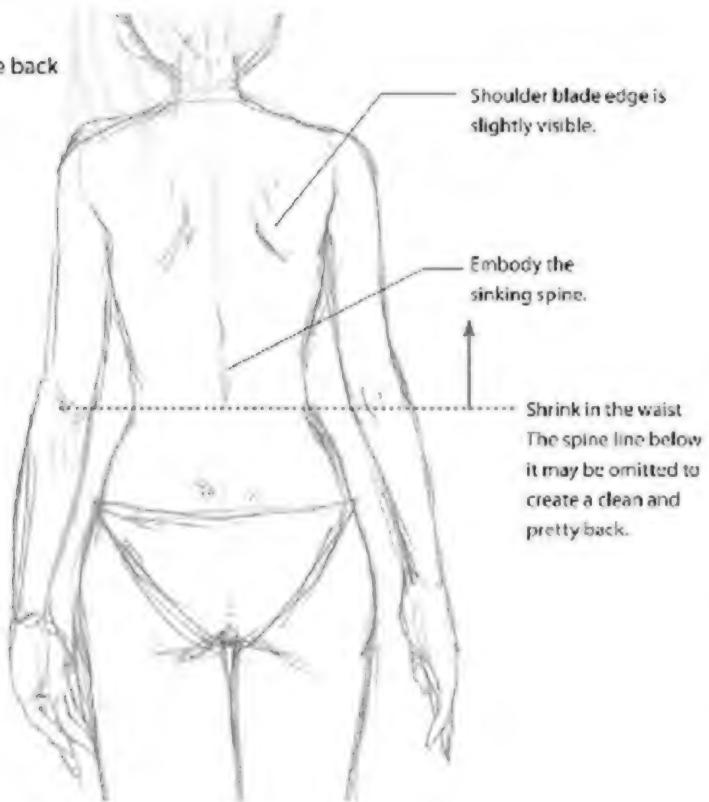
Big outline. It is the benchmark to draw up main parts and positions.

Angle of depression The back

Shoulder blade is above the chest ribs.

Shadow of shoulder blade

✻Collar bone is joined with shoulder blade.

Collar bone

Shoulder joint

Shoulder blade

Pelvis
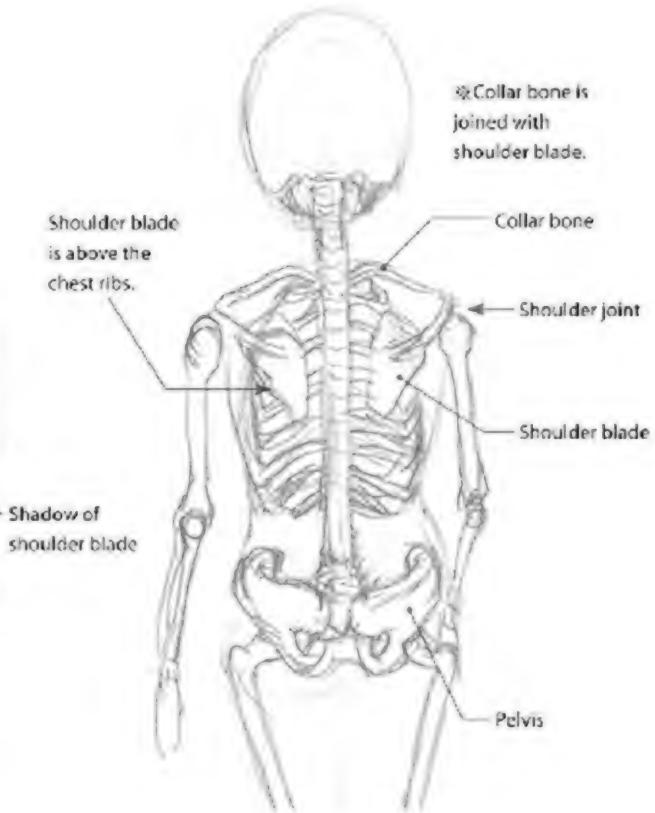
Draw up the lines under the shoulder blade.

Draw up the spine line in this angle to present a stereoscopic feeling.

Low angle view
3/4 side

Protruding shoulder blade

High angle view
Close to the front side

High angle view
3/4 side

Stress it with heavy lines and improve the stereoscopic feeling of the back.

Sitting posture
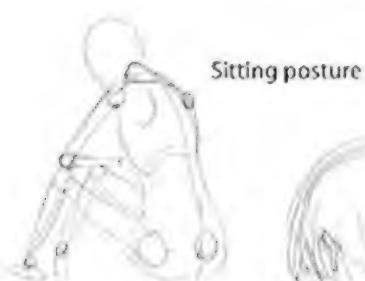
The shoulder blade looks protruding because of pressure here.

Extend the arms forward. The shoulder blade will extend outward along with arm movement, and the distance is enlarged between both sides.

Stretch the arms to the left and right. Since it is stretched with force, the shoulder blade is highlighted and gathers a bit towards the spine.

Clamp the body with the arms, and the shoulder blade will be highlighted and gather towards the spine. The distance between the skeletons is narrowed.

Draw the arms in to clearly show the shoulder blade.

Draw up distinct spine line shadow to emphasize appearance.

The shoulder blade is stretched upward and gathered towards the center.

The shoulder blade will not protrude when drawing the arms in gently.
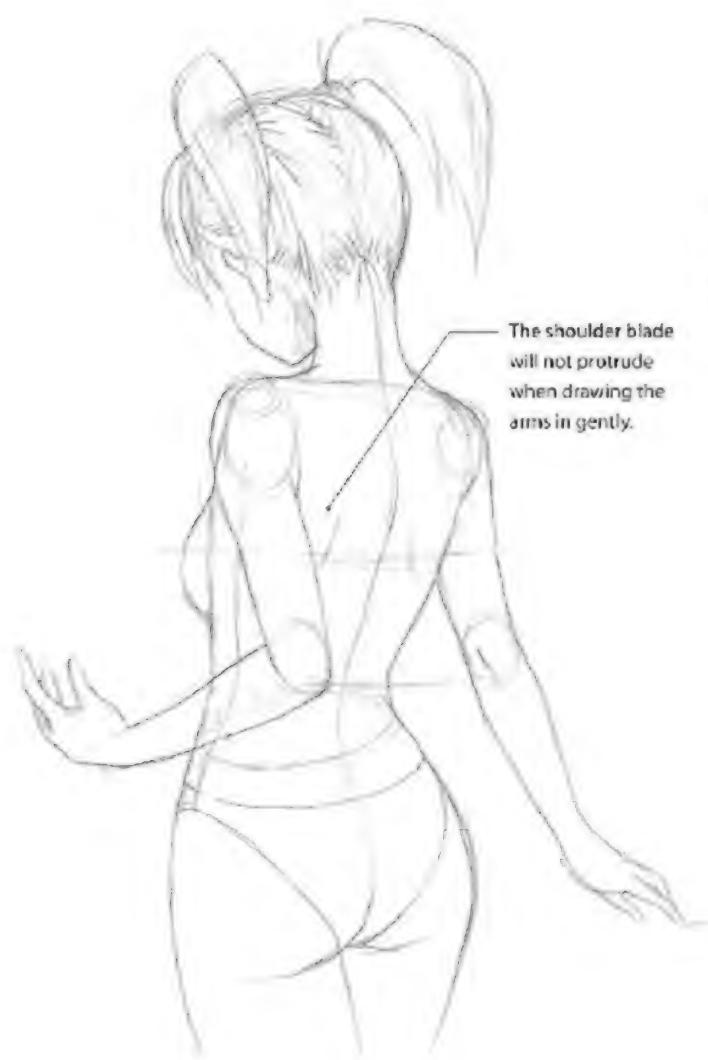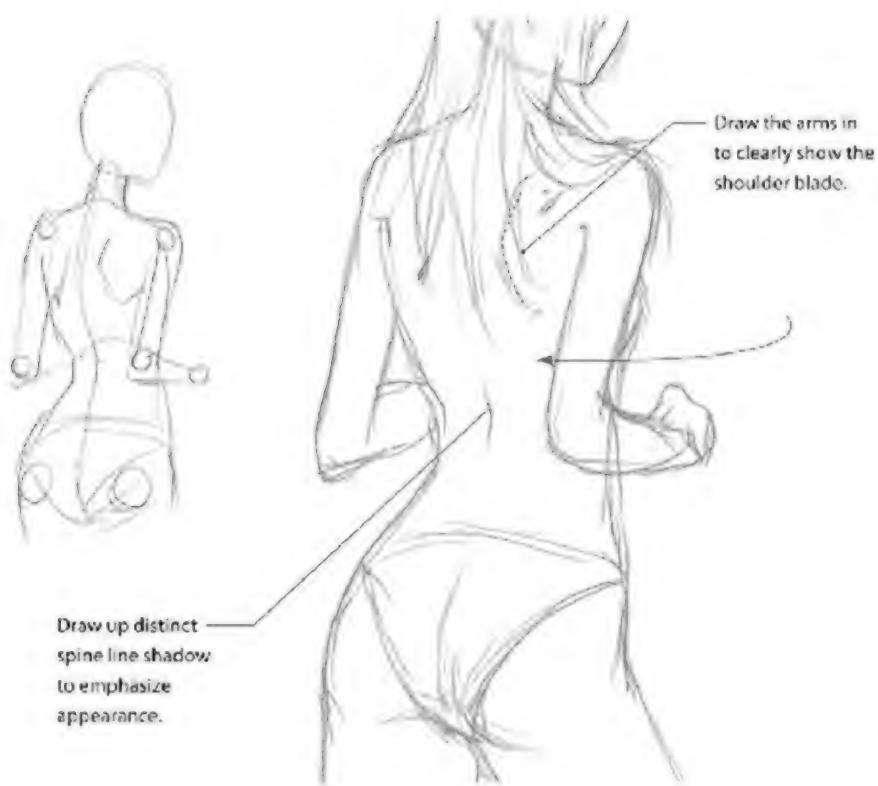
Draw the twisting, turn-back and bending movements

The key to display a flexible waist lies in the '<' shape.

Reverse the S shape when standing

Draw up the spine line to fix the posture. The shoulder line and pelvis line are not paralleled.

● Back

● Spine - centre line presents S shape.

③Fix the positions of shoulder line and pelvis line.

④Draw up the shapes of upper chest block and buttocks block.

⑤Fix the flexible extent of waist.

⑤Draw up muscle outline.

Upper chest block

Shoulder line

Compress

Stretch

Pelvis line

Buttocks block

① Draw up the posture of standing erect.

● Front

Shoulder line
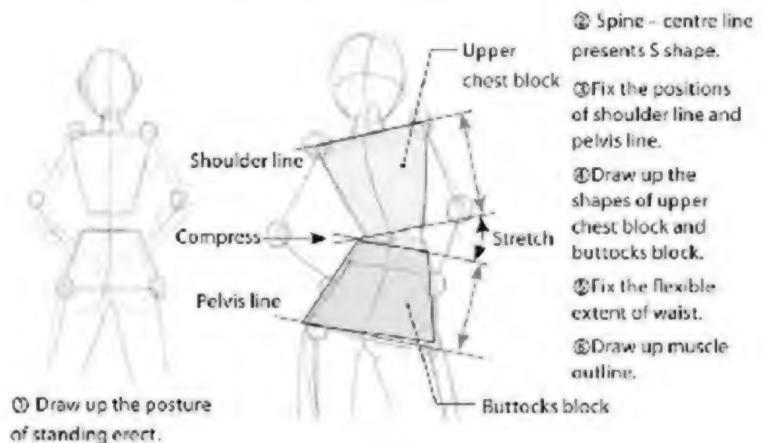
Pelvis line

②Draw up the appearances with muscles.

Leaning reverse

Shoulder line

Pelvis line

Leaning position. The pelvis line is horizontal.

Draw up the sketch to capture the shoulder line leaning angle and relationship between shoulder line and pelvis line.

Upper chest block

Underside of the upper chest block

Stretch

Upper part of the trunk

Compress

Upper part of the buttocks block
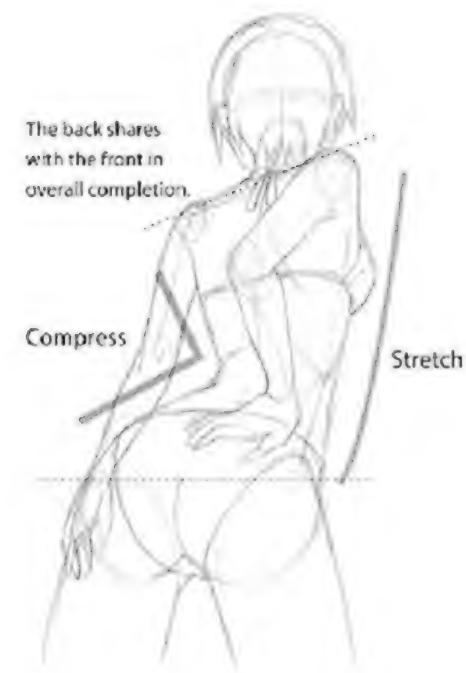
The back shares with the front in overall completion.

Compress

Stretch
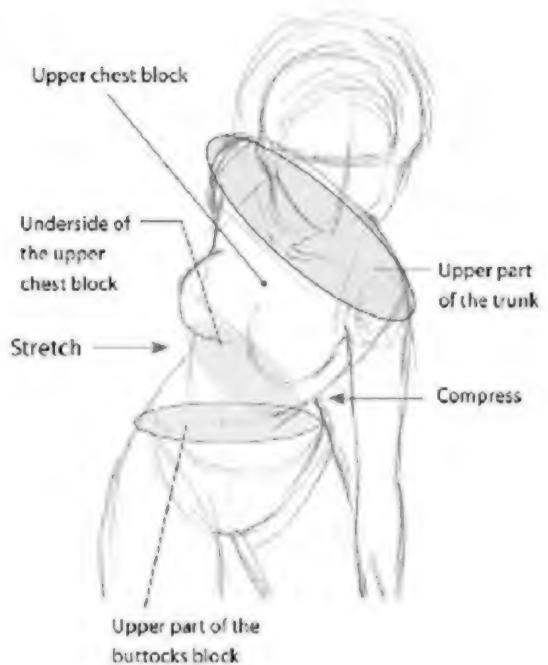
Go down on two knees.

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Turning around

Change the directions of the upper chest and buttocks block. Remember the back's centre line cannot appear at the same time with the body's front centre line.

The body will reverse when the face turns around.

Turn the waist to the opposite direction, and the body's centre line presents the S shape.

Big reverse

Small reverse

Combination of big reverse and small reverse makes the body's movement distinct.

Small reverse

Impossible reverse

Body's front + face's front side

Body's front side + face's front

Posture of standing with back towards us. If the upper body is turned around, it is unnatural to fully expose the centre line of the body's front.

● A slight reverse of the face, trunk and buttocks block cultivates a more dynamic glancing back

①

②

Rib line

Back centre line

Total reverse of the trunk.

③

Find out the body's side with the rib line, and the back with the back's centre line. Use the rib line and back centre line as reference. Remember to keep the reverse natural.

The face points the direction of the front side.

Reverse the face slightly to the front.

If the back is taken as the right side, the face will not be reversed to the right side.

If the body is reversed to show the rib line, the face will be reversed more than the front side.

Reverse the buttocks block slightly to the original position.

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Reversed bending

Look at the stretching of the abdomen and back waist shrinking posture.

Shoulder line

Elbow

Position of hand

Since there is no reverse, the hand position is taken as the benchmark. It is done to draw up parallel benchmarks.

Shrink

Stretch

Crouch Position

Stretch

Crouch posture with chin against knees, and the back is bowed into a circular arc.
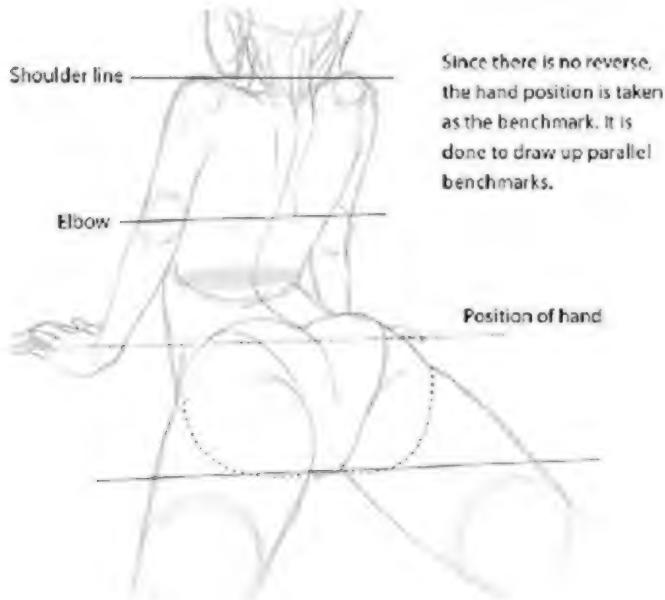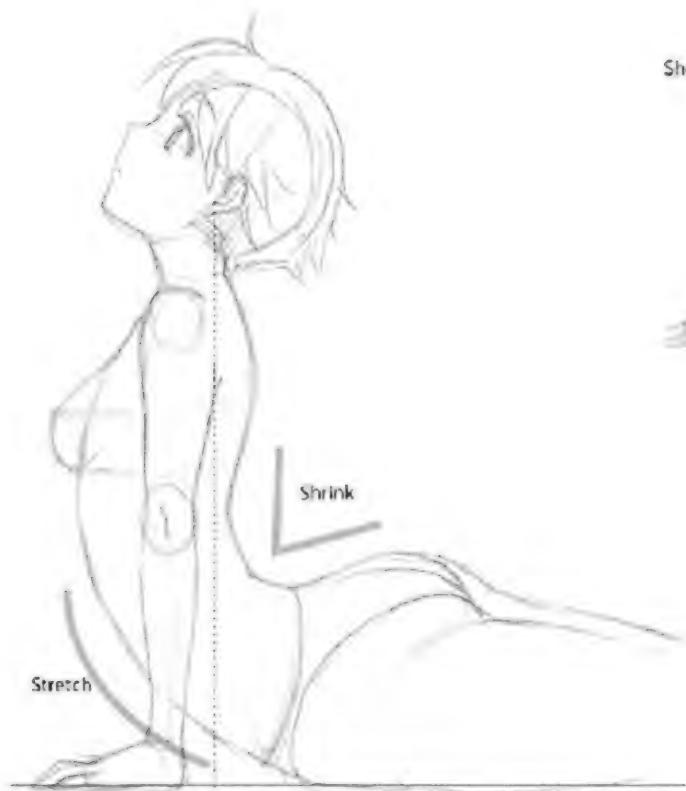
The shoulder joint is shrunk forward.

The thigh root joint has a wide sphere of movement. So, the circular arc of the back shall not be great when the figure holds the knees with hands.

Seen in the back, the buttocks are largely round.
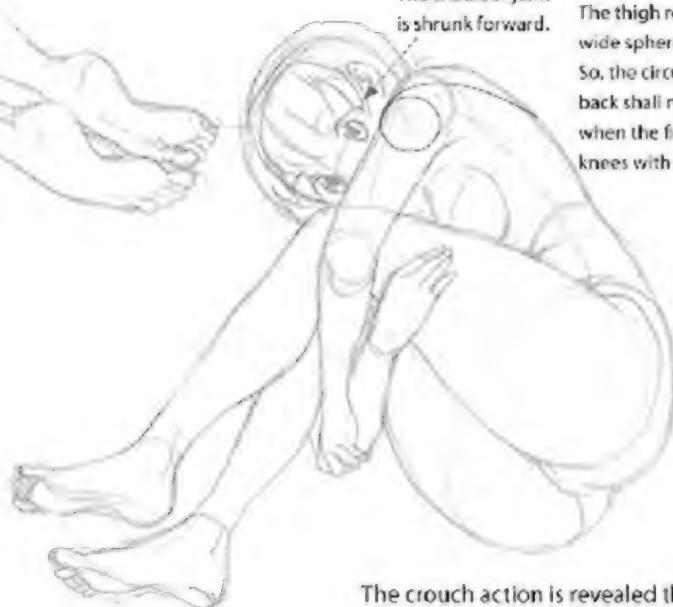
The crouch action is revealed through stretching the back, slightly narrowing the waist, and moving the thigh root joint.

The back cannot be adducted.

The belly is adducted.

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Draw up beautiful legs

Fix the leg line

Legs of the same figure. If the figure is observed in different angles or takes different actions, the thigh thickness will change. The contour line will also change.

Understand the leg part names and muscle situations.

thigh root joint

Inner thigh

Outer thigh

Knee

Calf

Shin bone

Ankle

Relations of leg bones and muscles. Inner muscles are thicker.

Behind flesh is thicker.

Front flesh is thinner.

Shin bone

Calf

● Thigh thickness

Thin

Thick

The left and right legs vary in thickness.

Front situation

The leg is thicker at the side

Outer thigh

Inner thigh

Knee

Shadow below the knee

Shin bone

Calf

See the wrinkles at thigh root under angle of elevation.

The calf will protrude strongly.

Outer thigh

Inner thigh

Shin bone

The calf bulges to cover shin bone.

Concealed shin bone line.

● **Benchmark thickness (stereoscopic) is oval shape**

Waist

Buttocks

Thigh

The thickness of joining buttocks with thighs is based on the oval benchmark.
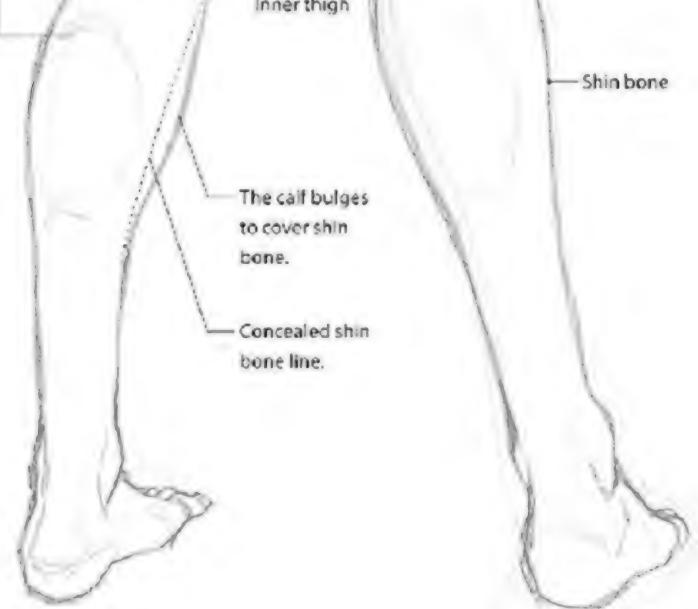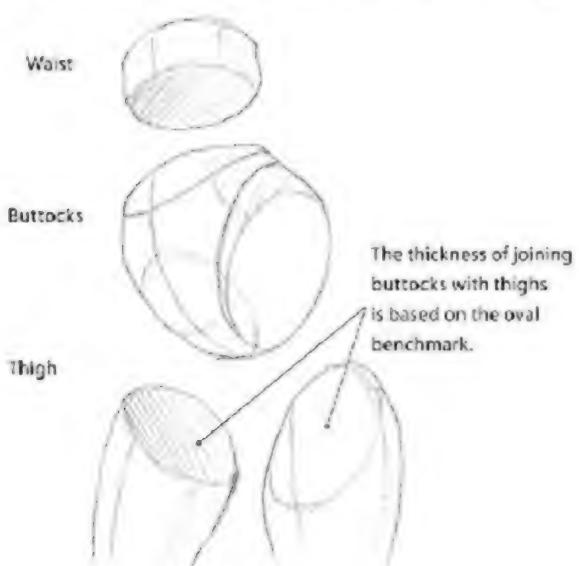
Draw up leg movement

Lateral movement

The leg joint may remain still when thigh root joint moves. The thrust comes forth from the thigh root, triggering simultaneous movement in the waist and upper body.

● Raise the leg toward the side

The leg looks straight, but will bend a little.

Support

Thigh root joint.

Thigh root joint and foot arch are in one straight line.

Stand on tiptoe.

Dynamic moment. The figure stands stably though on one leg.

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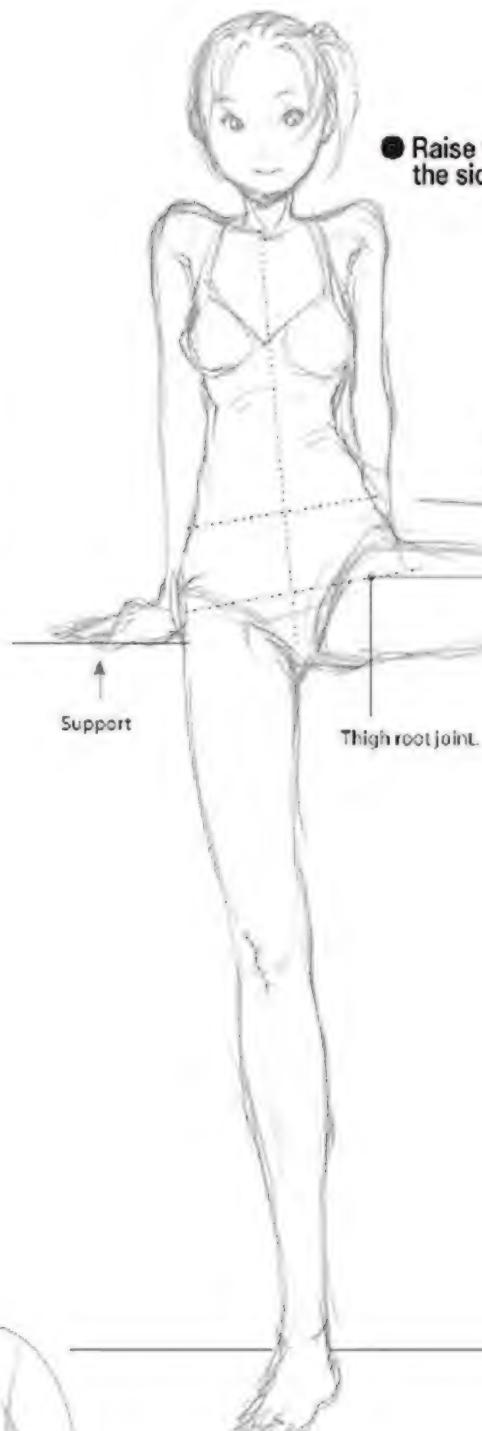
● Stretch to left and right

The joints are not lined horizontally.

Shoulder line

Put the inner thigh toward the front.

Ovals become smaller.

The two thigh root joints are horizontally.

The lowest centre base line of the trunk is exposed, showing the buttocks are extended forward.

The two heel lines are parallel.

The ovals showing the thigh thickness remain basically unchanged in width.

● Raise legs upward

The upper body keeps upright, and the waist has wrinkles.

Ovals are used to decide leg radian measures. The centre line follows upward angle.

The benchmark lines here are curves. The upper body is drawn in an angle of elevation.

Thigh root

This is the side boundary of swimsuit when drawing inner swimsuit.

Buttocks muscles

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When the leg is kicked to the highest point, the inner thigh will be extended to the maximum.

● Front

● Back

1/2

The centre line of the back will bend slightly, even if the body is kept straight.

The waist will contract inward slightly and take a 'c' shape in the side of kicked leg.

Shrink

Stretch

Long leg-based figure

● Front side

Thigh root joint

Buttocks

● The upper limb and leg lines will change when legs are raised in different modes.

Vertical kick

Side kick

Heel is raised.

Heel touches ground.

Tilt

Upright

Large-scale contraction
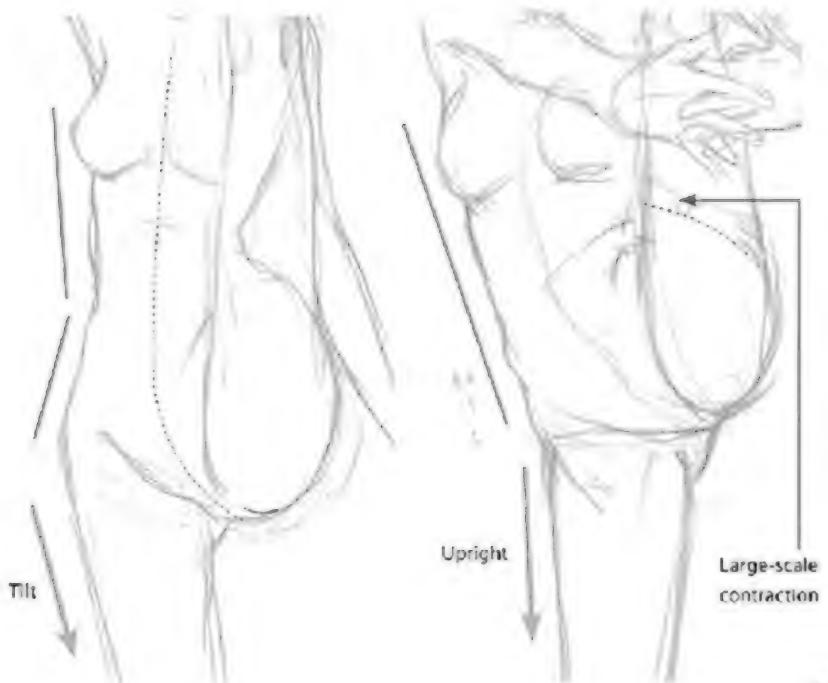
Leg forms when seated
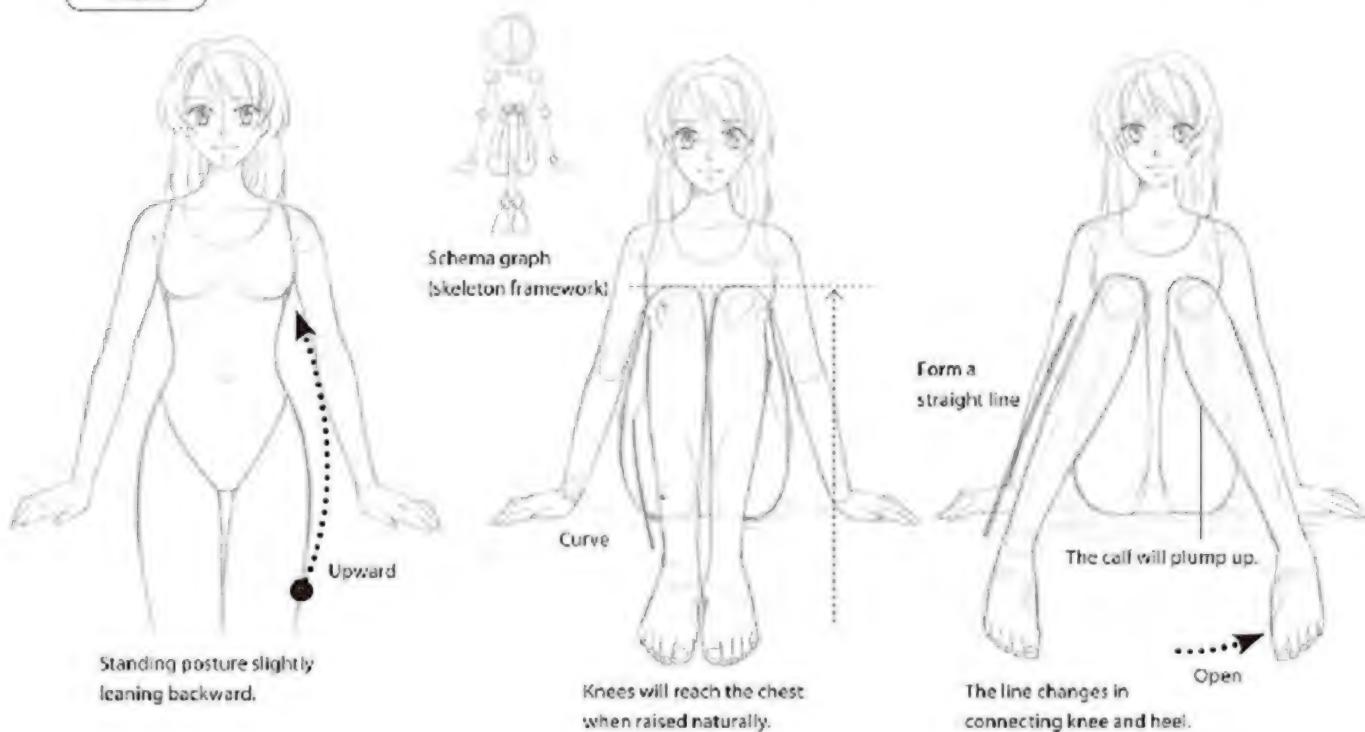
Now, let's look at how to draw legs when the figure sits down. We may draw up the schema graph first to determine posture. Pay attention to knee position and changes in thigh thickness.

Front

Schema graph
(skeleton framework)

Standing posture slightly leaning backward.

Upward

Curve

Knees will reach the chest when raised naturally.

Form a straight line

The calf will plump up.

The line changes in connecting knee and heel.

Open

Sitting posture with raised knees

The border line curves upward for buttocks block.

The buttocks block extends forward.

Centre line of trunk underside

Position of knees

Fix the position of knees to draw.

Keep knees open

The upper body bends backward slightly.

Benchmark circle for thigh root.
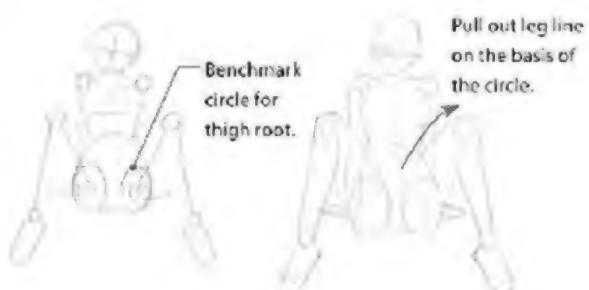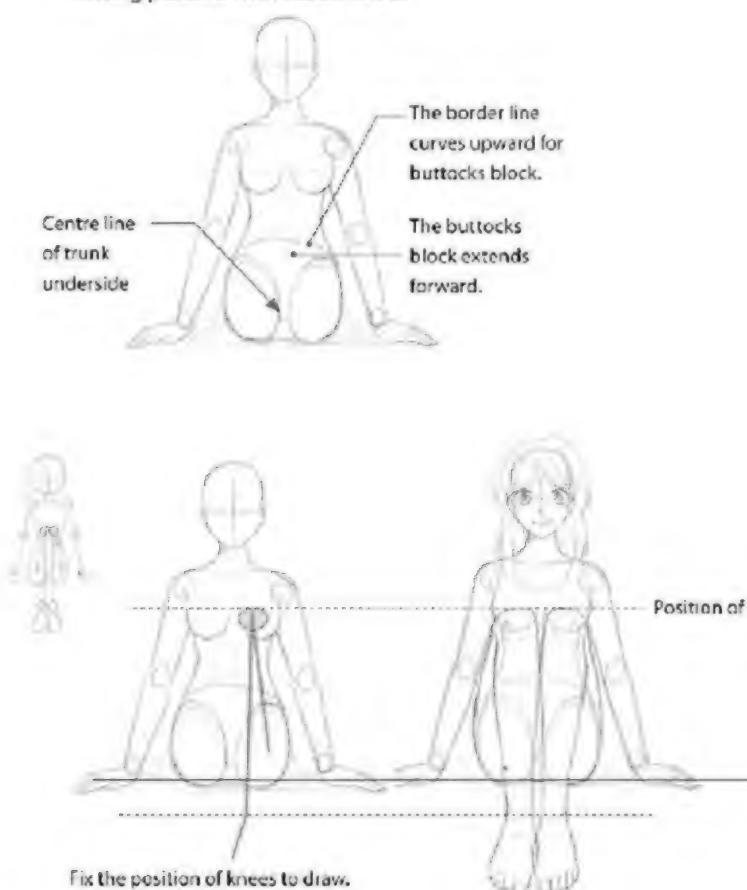
Pull out leg line on the basis of the circle.

● Sit straight posture

Schema graph

Maintain the upper body posture and change leg angle.

Reference: When the legs are opened, the inner side leg in the picture should be exposed slightly.
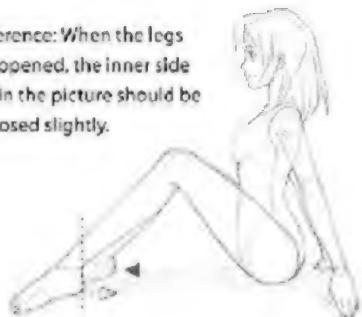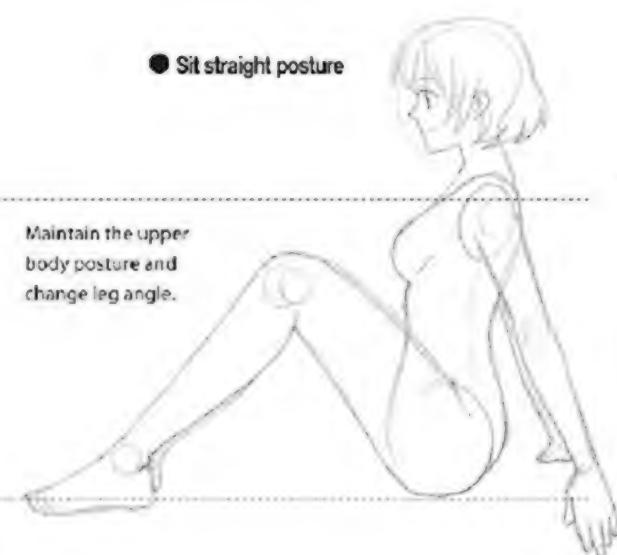
The body leans forward.
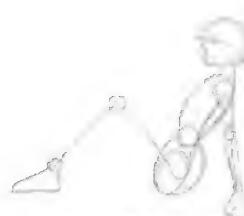
The body leans backward.
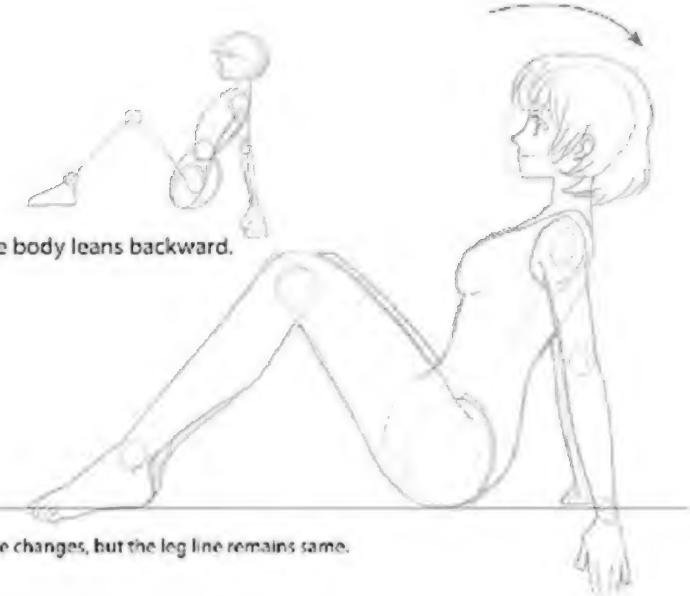
The upper body posture changes, but the leg line remains same.

Back

Trunk   Thigh root

①Draw up schema graph.   ②Draw up contour line.

3/4 side

Sitting posture with erected knees

The shoulder line, pelvis line and knee connection line are all basically parallel.
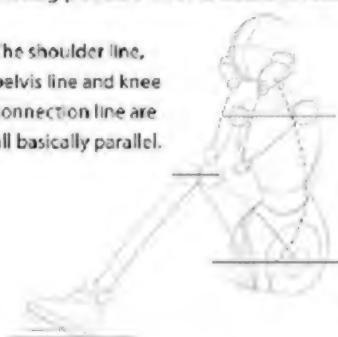
①Draw up the schema graph in sitting posture.

②Draw up body contour on the basis of the schema graph.
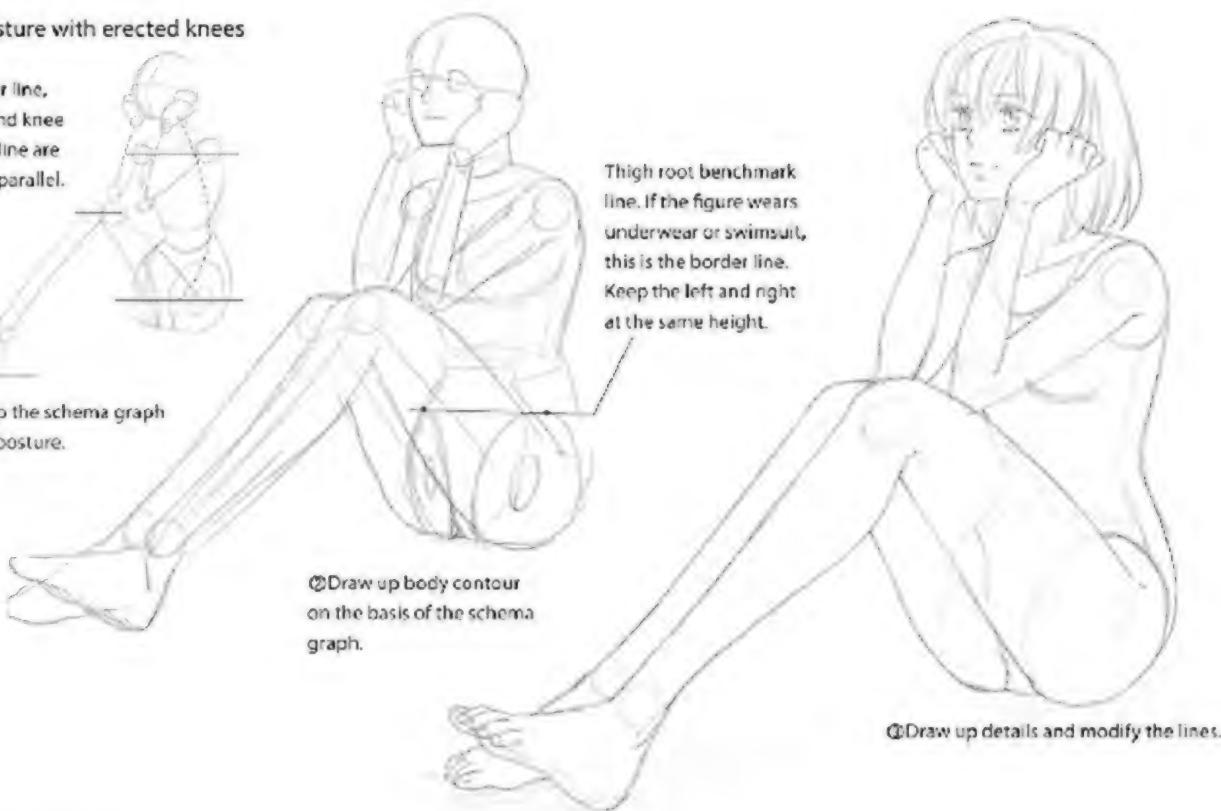
Thigh root benchmark line. If the figure wears underwear or swimsuit, this is the border line. Keep the left and right at the same height.

③Draw up details and modify the lines.

One knee-down posture

①Draw up the schema graph of the posture. Pay attention to the trunk and its joint with thighs.

②Draw up the body contour to enhance body stereoscopic expression.

The knees are round.

Draw the shin bone line straight.

③Draw up details and modify the lines.

Backward-leaning posture with
one leg up

①Draw up the schema
graph for the posture.

②Draw up the body contour. It is easy to draw
the leg lines wrong here. So, we may draw up
ovals as the benchmark, exactly like painting
stockings, to facilitate the work.

③Modify the lines and complete
drawing.

Forward and backward movement of legs

~ Draw with an eye to trunk underside ~

Thigh root

thigh root folds

Reference line for
buttocks height.

Reference line
for thigh root.

Mistaken
leg line
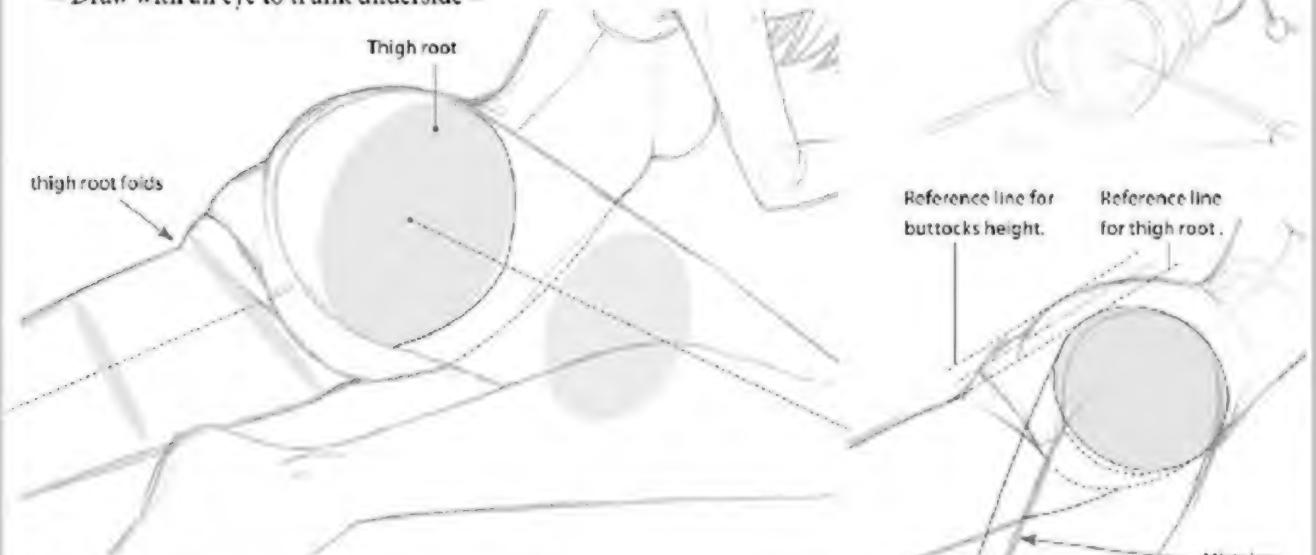
In drawing up human body, we need to bring its stereoscopic
feeling through thickness. The trunk underside is an element
often neglected in revealing body thickness.

Correct thigh line.

Draw up pretty legs by
understanding trunk underside.

Draw up feet

Feet shape when standing

Capture the triangle and toe block.

● Key points in drawing

Ankle. The outer side bulges.

Ankle. The inner side bulges.

Arch. Bulge upward.

Foot and ankle border side.

Thickness

Heel   Arch   Toe
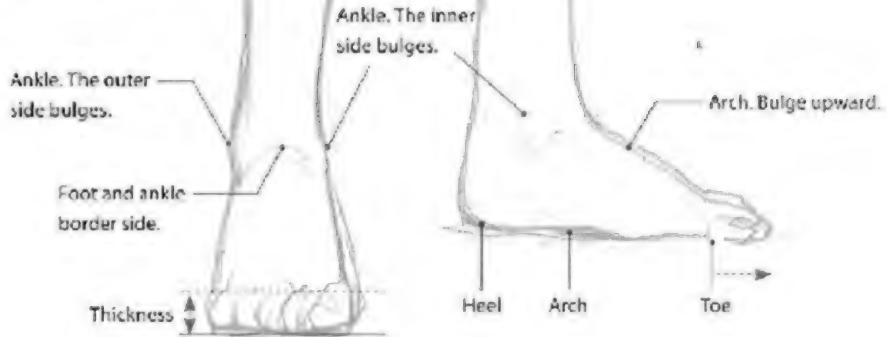
Key points

The foot comprises the joint, triangle and toe thickness.

Triangle

The heel bulges backward from the ankle.

Toe block

Height

The triangle is the area of heel height tilting toward toe.
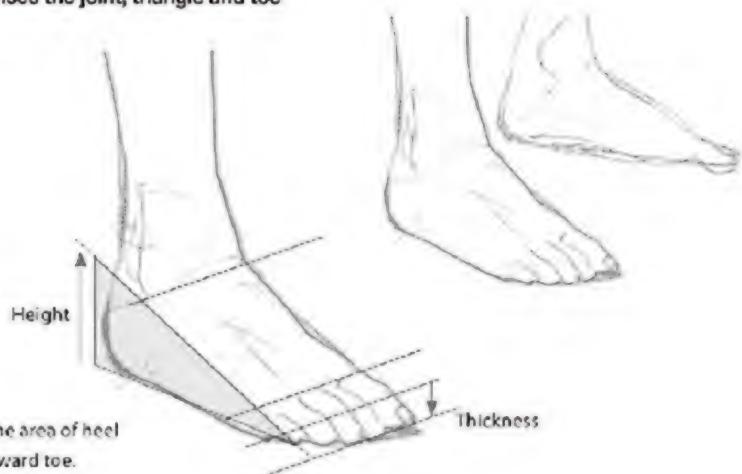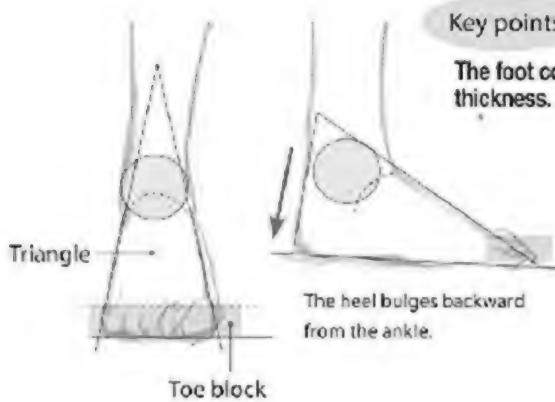
Thickness

Learn the basic technique to draw feet

Feet shape when standing

Find out the Reference curve for arch height.

Big outline of triangle.
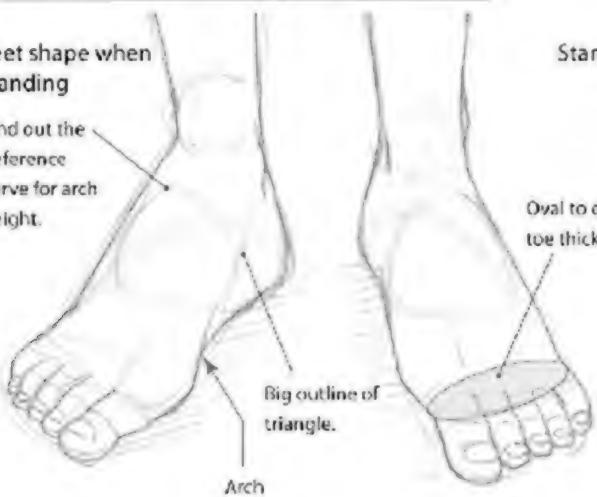
Arch

Stand on tiptoe

Oval to determine toe thickness.

Arch

The section next to the toes will not rise.
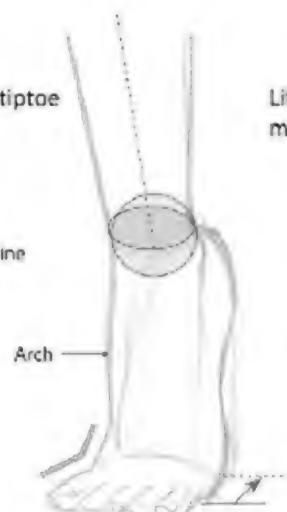
Lift up the foot to march forward

The big outline of the foot sole is also oval.

The big outline of the heel is round.

Feet for various standing postures

Standing posture for heels together

Standing posture for raised heels

Back of foot in walking

Bending curve

Foot shape when marching forward

Though seen in same angle, but....

Stress bulging ankle. Embody skeleton contour to enhance sense of existence.

Curve stressing arch bending

Do not emphasize bulging ankle.

Stress the gracefulness of the female feet.

Sole of the foot

uplift

①Draw up fundamental framework.

②Sketch the contour with thick lines. Remember transitions in drawing curves.
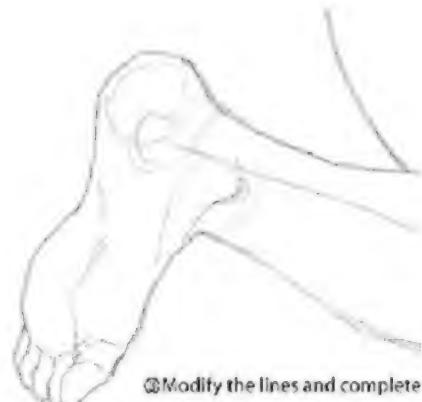
③Modify the lines and complete the drawing. Toes other than the big toe are basically the same.

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Four body types

The figures' bodies may be separated into four types according to the skeleton and muscle expression modes. Different body type brings different personality inclinations and behavior modes of the figures. All the cartoon figures are essentially expressed on the basis of the four body types.

Circular type: abdomen
It looks mellow and full on the whole.

Facial type: round

Neck: thick and short.

Shoulder: sloping shoulder, looking mellow and full.

Collar bone: basically invisible and may be omitted.

Arms, joints and wrists: drawn thick.

The abdomen is also drawn mellow and full.

Buttocks: equally wide with shoulders.

Thigh: do not stress muscle sense and draw with mild curves.

Shin bone and ankle: drawn in thick lines.

The face, neck, trunk, hands and feet all bulge round to the left and right.

Slim type: head
The figure looks slim and tall. The neck is strong, though it looks slender.

Face type: Slim and long.

Neck: thin but strong.

Shoulder: properly stress the beauty of the bone, so draw it with some curves.

Collar bone: distinct.

Arms and wrist: stress slender muscles.

Buttocks: as wide as shoulder.

Thigh and calf: draw it slender.

The face, neck, trunk, hands and feet are slender.
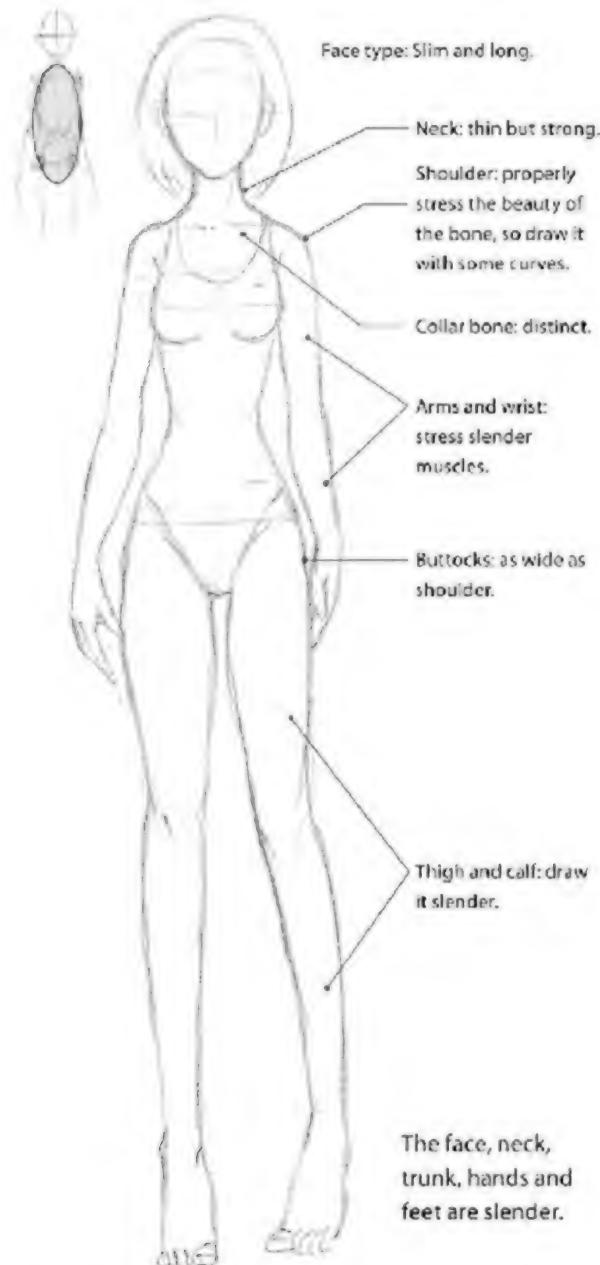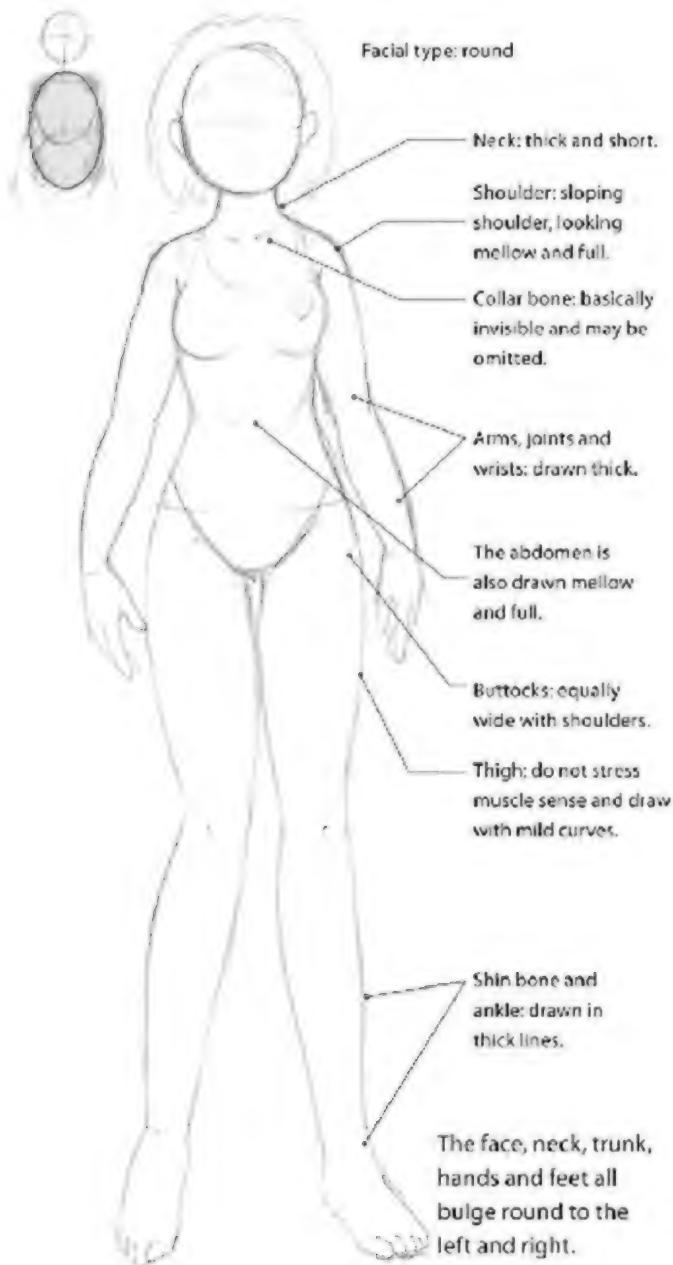
This type of figure is perceptual a gourmet and fond of talking.

- The figure looks chubby, a sunshine girl.
- The figure is a girl of feeling, who loves gourmet and chat best.
- If she feels hungry, she will be low in spirits.
- Acts according to her own preferences. Does not think too much about anything. Always an easy going person.
- Has a good memory, sensitive, and follows her heart.
- The image color is a bright color, such as red and pink (because it looks pretty).

This figure belongs to the thoughtful type They are wise but slightly weak in actions

- Slender looking
- Looks dull because of pondering
- Logical in thinking, planning, imaginative. But they often end up with nothing definite after the thinking.
- A combination of adviser (realism) and dreamer (idealism)
- No image color (just like it)

Inverted triangle: shoulders
Feeling like an athlete.

Face type: chin looks triangle

Neck: strong muscles, so draw up neck tendon.

Collar bone: strong skeleton, so express it clearly.

Shoulder: strong, with forceful muscles.

Arms: stress muscle shape.

The lines of the wrist and elbow will be tightened inward.

Buttocks: narrower than shoulders.

Thigh: stress muscles. The knee line will be taken in. The leg line fluctuates greatly.

Knee: stress skeletal contour to look like athletes.

The face and body are in a inverted triangle. Stress muscle fluctuation in drawing.

**This figure is the athletic type
Thinks rationally**

- Inverted triangle with wide shoulders and narrow buttocks.
- Developed respiratory system and strong athletic ability.
- Analyze reasons, and gains and losses of actions theoretically. Take actions when the objective is clear.
- Sentimental sometimes, but can be cool and unfeeling towards others.
- No image color (choose the color according to objectives).

Triangle: buttocks
Buttocks are wider than shoulders.

Face type: diamond-shaped

Neck: thin and short.

Collar bone: indistinct.

Shoulder: sloping shoulders. Do not stress muscles.

Arms: mellow but not strong. Do not stress muscles.

Buttocks: Slightly wider than shoulders.

Thighs: larger than buttocks, so a bit thicker.

Draw into a mellow inverted triangle.

**This figure is passionate
She is prudent and sensitive**

- Wide buttocks, inverted triangular body, and long legs.
- Steady and prudent. Acts fast when emotionally ready or decision made. Concentrated.
- Keen intuition. Grasps essence of things without thinking.
- Artists and creators fall into this type. They are slender and yet with destructive explosive forces.
- Good at caring for others, with a maternal instinct.
- The image color is grey or black (act with intuition).

Distinguishing basic features

Front
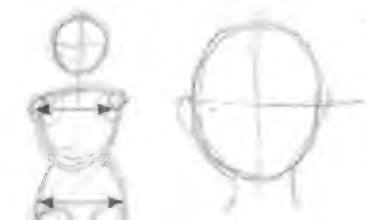
● **Circular type**

Shoulders and buttocks are equally wide.

Round face

Start with shoulders. The whole body looks mellow and full.

● **Slim type**
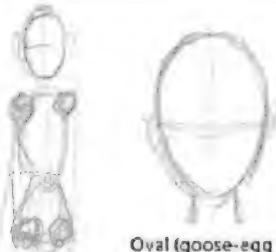
Oval (goose-egg face)

Same as the circular type, the shoulders are equally wide with buttocks. The trunk is a bit narrower than the circular type, about 2/3 of the latter.

The trapezius muscle is distinct, tilting to the neck to make it look strong. Since the shoulders are narrow, she does not look as strong as an athlete.
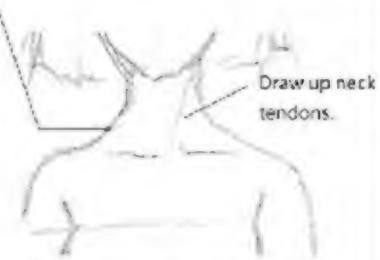
Draw up neck tendons.

The most typical part is the neck, which is longer than other types.

● **Inverted triangle**
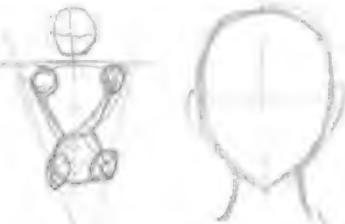
Shoulders are wider than buttocks.

The chin is in inverted triangle (male figures might look square).

The shoulders have edges and corners. Draw up circular arc for muscles.
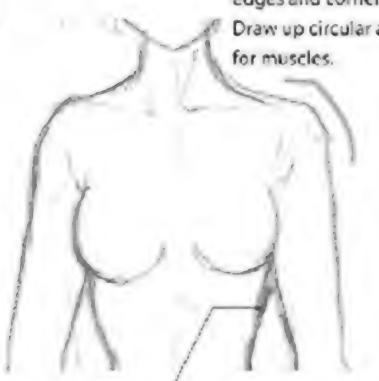
The respiratory system is developed. So, stress the trunk lines under the chest to show the chest is powerful.

● **Triangle type**
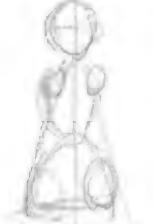
The buttocks look big and shoulders look narrow.

The chin is diamond shaped.

The waist is very thin. Stress the mellow and full buttocks.
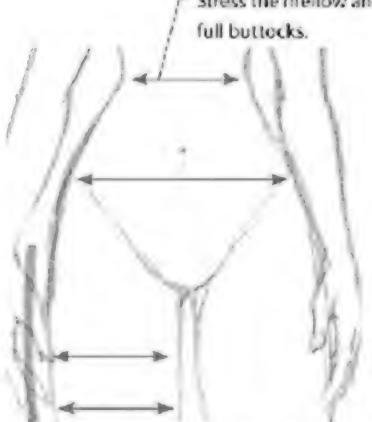
The parts of legs of same thickness look longer, but without a sense of muscle.

Front side

● Circular type
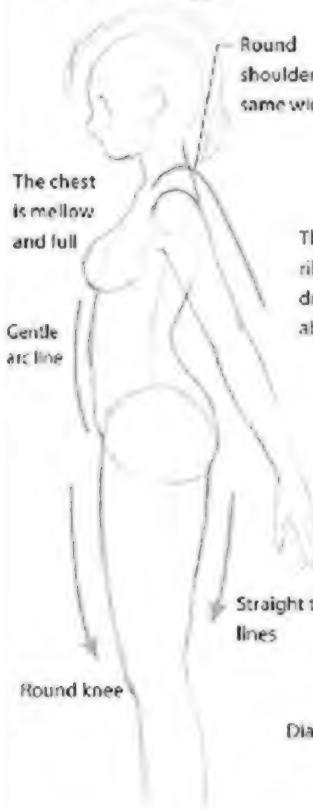
Round shoulders, with same wide arms.

The chest is mellow and full

Gentle arc line

Straight thigh lines

Round knee

● Slim type

Draw it forcefully.

Think about rib shape in drawing the abdomen.

Diamond shape

Arm and leg lines are refined circular type.

● Inverted triangle type

Stress shoulders. Draw up arc with edges and corners.

Sink slightly to take in the abdomen.

Protruded arc. Stress muscles.

Stress bulging lines for thighs.

Narrow down elbows and knees in drawing.

● Triangle type

Draw the thighs above knees a bit longer.

Back

● Circular type
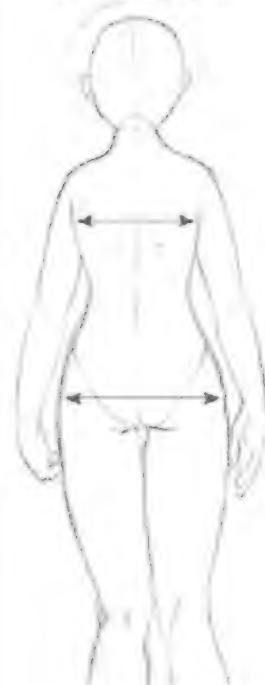
The back is about 2/3 wide of the buttocks.

● Slim type

The back and buttocks are 2/3 of those of the circular type.

● Inverted triangle type
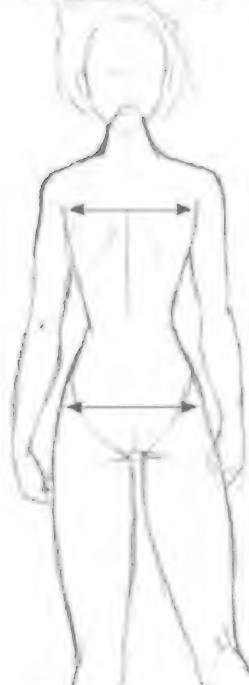
The back is two times that of the slim type, and the buttocks are as equally wide as the slim type.

● Triangle type
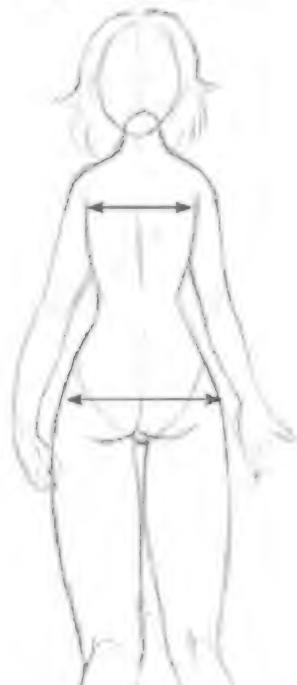
The back is equally wide with the slim type, and buttocks are basically the same as the circular type.

3/4 side

Benchmark body type proportion. Base the trunk on inverted triangle and buttocks on the circular type.

● Circular type

Apply straight lines to embody thick and fat senses.

Do not stress the trapezius muscle.

Pay attention to the arc radian.

Abdomen: Lines bulge slightly.

With arc

● Slim type

The neck is thin. Use adducent curves to stress thin neck.

The abdomen lines will not bulge.

Draw the figure with sense of straight lines.

Without any arc

Grasp the lines for trunk thickness.

Sketch
Pay attention to draw up mellow and full trunk.

Sketch
Pay attention to draw slender arms and legs and thin trunk.

● Inverted triangle

The collar bone must be drawn clearly.

The shoulders are drawn with edges and corners.

← It must sink.

Be aware of the ribs. Draw them properly with straight lines. →

Stress the chest thickness in drawing the back contour line.

Sink slightly

The lines branch off to reach the lower abdomen and reveal buttocks width.

Bulge outward

Sketch
Pay attention to expressing the skeleton and muscles in the drawing.

● Triangle type

The thigh lines are basically same with the circular type. Do not stress muscles. But leave a fat and soft impression.

Sketch
Pay attention to draw up sloping shoulder, narrow shoulder and wide pelvis in the drawing.

Draw up movements reflecting personalities

Draw up the figure after setting guidelines.

● Circular type
Abdomen leads actions (abdomen drives actions)

<Design concept>
The figures are bright, lively and merry.

Sway the arms, as if dancing. Draw up the moment raising one leg.

Key points

Abdomen

In a pigeon-toed pose to look lovely.

The shoulder line and pelvis line are slanted while walking forward. The slating angle becomes bigger to express physical movement in relaxed atmosphere.
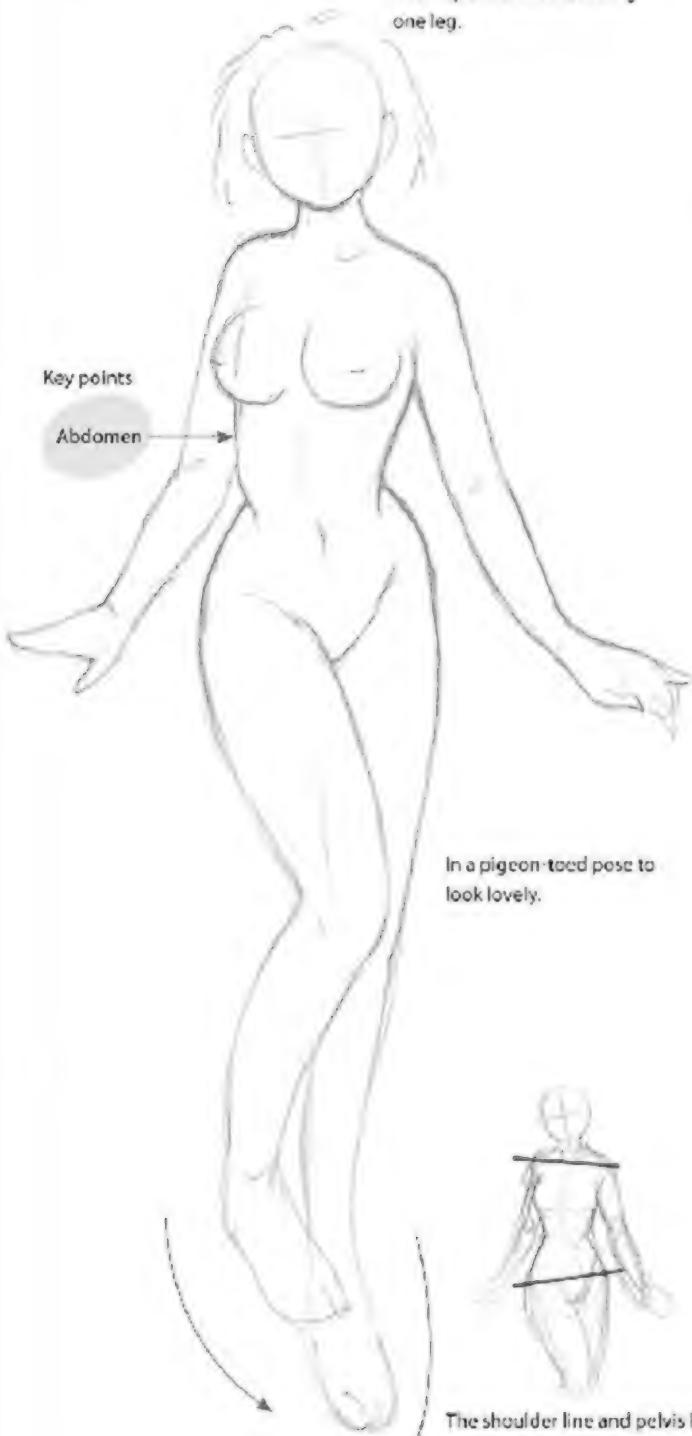
● Slim type
The neck directs movements.

<Design concept>
This is a thoughtful type. She will think over the reason for walking while walking, and we need to show it up.
The head leans forward, the neck puts forth strength slightly, and she walks in half steps.

Trapezius muscle

Neck

Step forward normally to incarnate the feeling of thinking while walking forward.

The shoulder line is basically horizontal.

The shoulder line is basically horizontal, and the pelvis line slants slightly to create a sense of slowing moving forward.

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● **Inverted triangle type**
The shoulder directs movement.

<Design concept>
Stride forward valiantly towards destination. The body leans forward. Swing arms sharply.

Shoulder

Shoulder

Thigh

March forward steadily to reflect the strong feeling of taking great strides forward.

The leg behind kicks the ground.

The shoulder and pelvis lines are slanted substantially to show fast and vigorous movement.
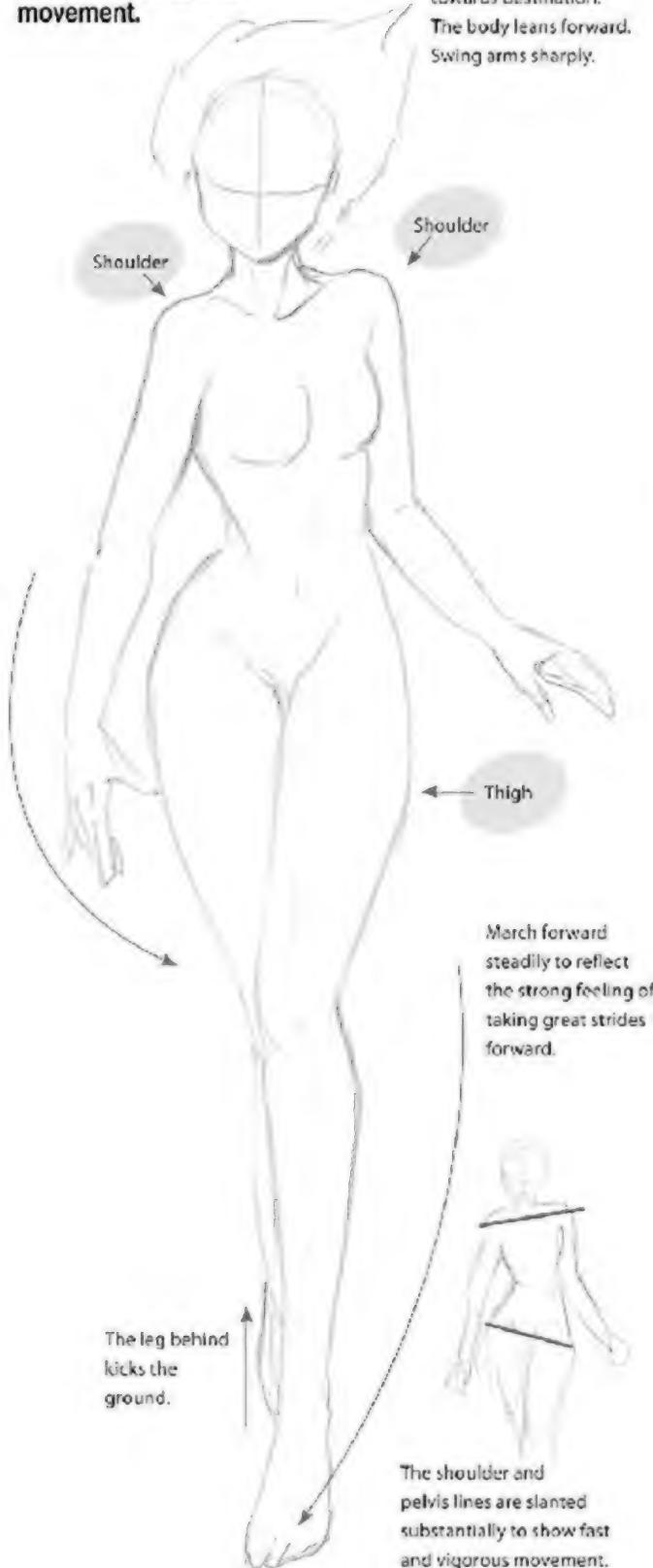
● **Triangle type**
The buttocks direct movement.

<Design concept>
Walk forward instinctively, with nothing in mind.

As if looking upward.

The pelvis expands outward.

Buttocks

The leg marches forward straightly, with lifted sole, not caring at all.

The shoulder and pelvis lines slant slightly. It is different from the other types, looking ordinary but containing unique features.
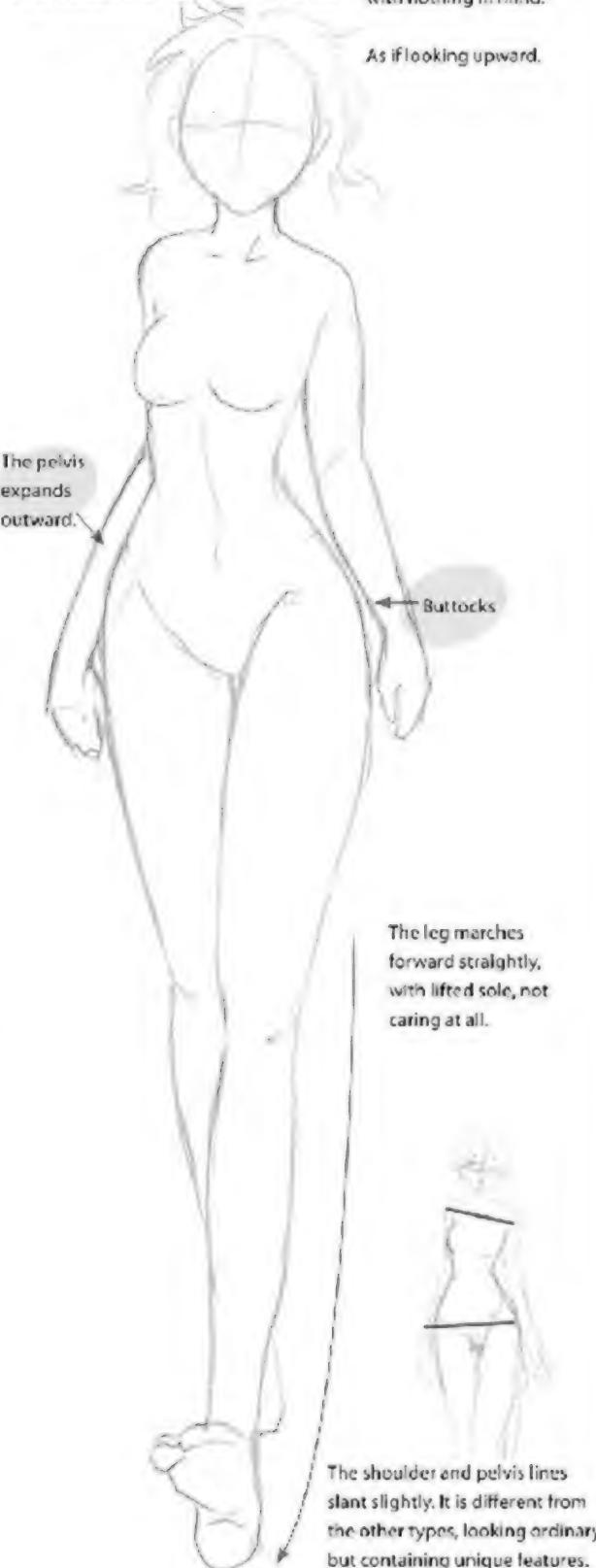
● Circular type
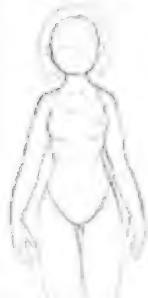
She will not listen much to others. Even if she does, she sometimes will not follow.

Want to let the figure sit on the ground. Sometimes, she will do it by simply sitting down (just having a general idea).

Rich emotions. As seen in this point, sitting is a lovely posture.

Rough sketch. The figure looks mellow and full. Reveal this impression when drawing the rough sketch.

● Slim type
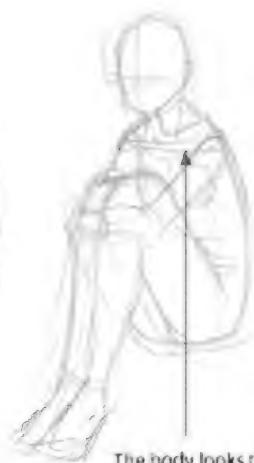
Think about which is the most correct posture in sitting on ground, and then sit down.

Since she keeps thinking, she will not relax even after sitting down. The figure looks stiff, with edges and corners. Keep these in mind in the drawing.

The body looks thin. Catch this point in drawing the big outline. Find out the top surface of the trunk.

Sketch of sitting with arms upon knees
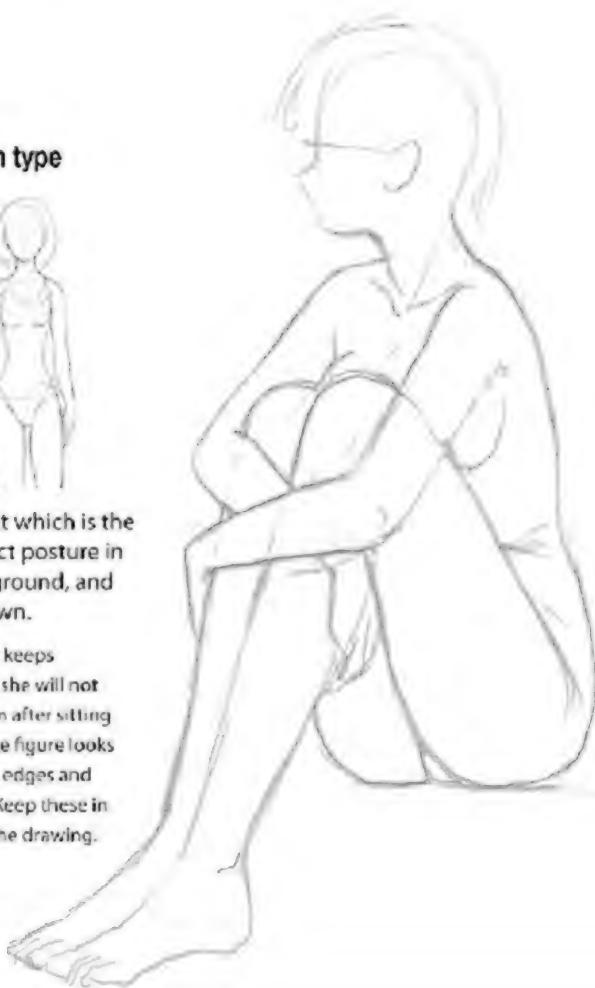
● Inverted triangle

Knows what she wants, such as earning money or looking smart way. Then, takes action.

Thinks. It will do to look smart. Makes a pose and sits down.

The posture is good, showing a well built body. Do not draw the buttocks too big when drawing the trunk.

● Triangle type

Understands other's intentions through intuition, and copes with them flexibly.

Hold the knees with arms when sitting on the ground. Judge or understand through intuition. The posture and feet may be arranged freely so long as they meet the necessary conditions. Makes various postures according to her moods, or show a kind of sexy beauty.
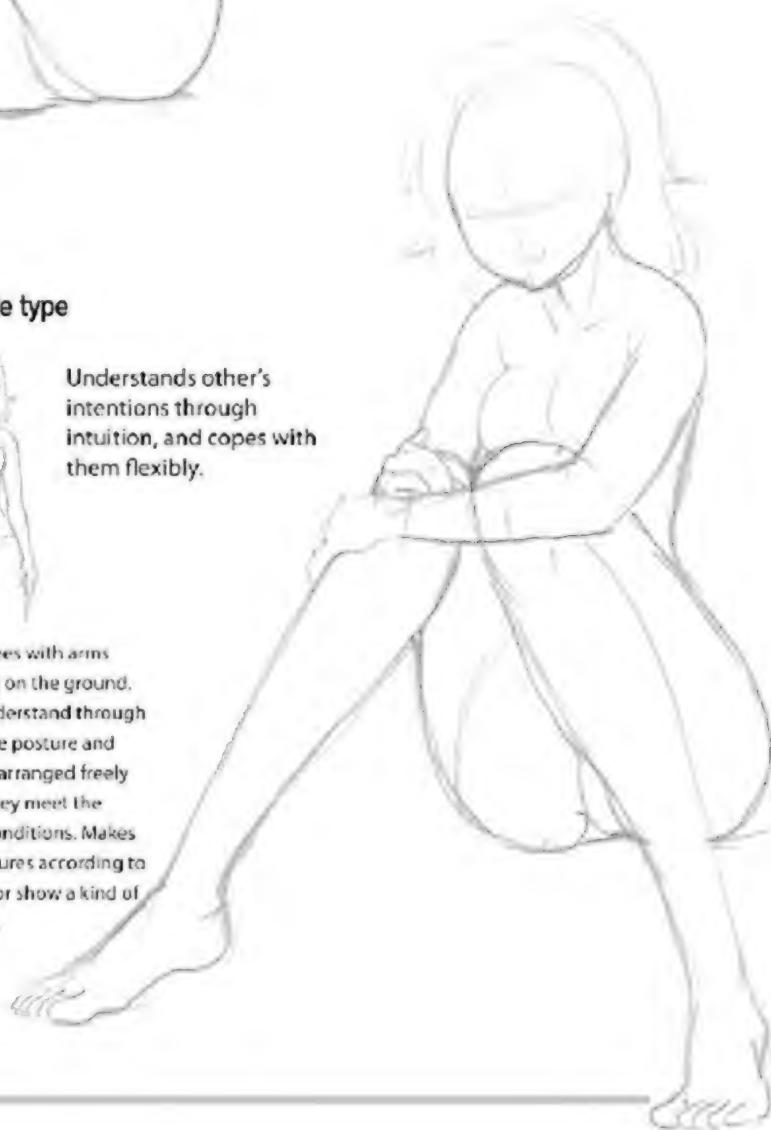
The upper half is circular. Draw the buttocks larger as a typical feature of the body.

Draw up existing and dynamic figure

Display plump body

Reveal the body's stereoscopic feeling with shadows. Decide the light source direction first.

Front

Light source largely shoot from the front angle.

Fundamental type, without shadows.

Draw up shadows according to muscle bumps.

Draw up shadows to the side of the trunk, under the chest and abdomen.
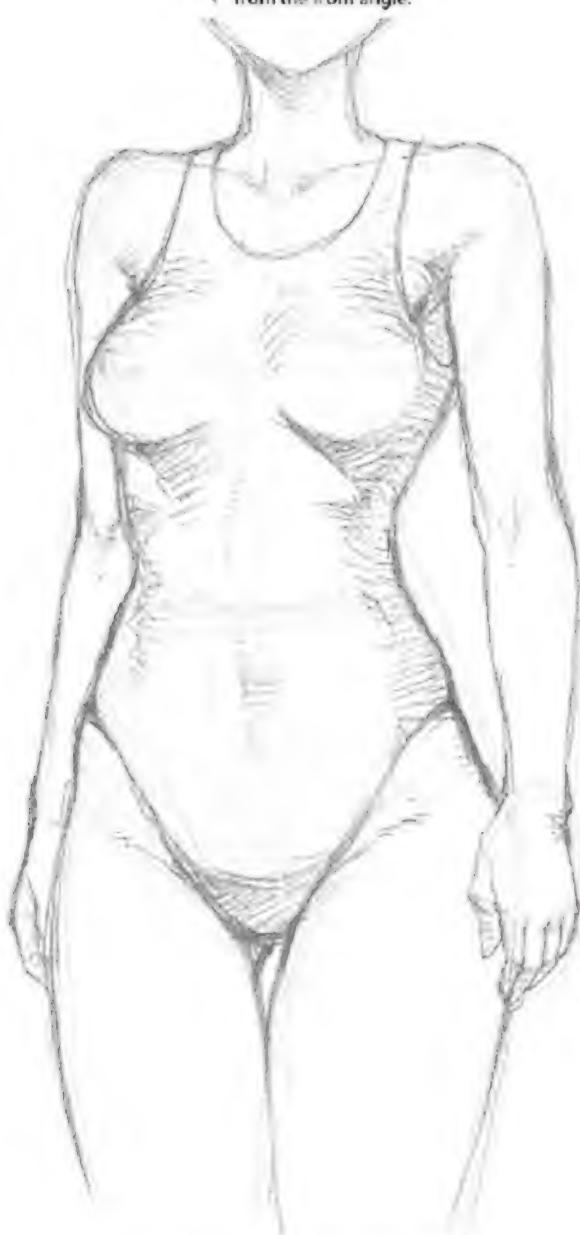
Draw up shadow contour lines with curves for the chest and upper thighs, and deepen them.

Stress the shadows at the shoulders, chest and contracted abdomen.

Light from the left

Low contrast ratio (on the whole looking grey).

The highlight part is a surface.

U-shaped boundary, with thicker shadows in the lower part. Such a figure looks more stereoscopic.

The highlight in the figure's chest is also circular.

Strong contrast ratio (on the whole looking black).

Processing the chest tip by highlighting expresses the material quality of clothes.

Fewer lines are used to depict shadows when the light is weak, looking thin and light.

More lines are applied to depict shadows when the light is strong.

Top light

Fundamental type,
without shadows.

highlight

Gradual
changing
of layers

Gradual
changing
of layers

Light

White light (highlight)

Thick

The shadows form a
U-shaped border line
along the buttocks.

Revealing the body under Low angle view

Body trunk is a cylinder composed of circles. Keep this in mind in drawing.

They are all curves to display the stereoscopic feeling of the body.

Body performance in a large movement

Springing posture

Remember we may display the figure in various angles in the drawing. The angle of elevation and the wide angle will make the figure bold and vigorous.

Narrow low angle view

Narrow low angle view

Low angle view - narrow wide angle

Narrow high angle view + wide angle

High angle view + wide angle

High angle view + wide angle

Kicking the leg

Display kicking leg with a full-body drawing. Whether using the angle of elevation or angle of depression rests with the kicking direction and movement orientation.

Narrow low angle

Normal angle

High angle

In normal situations, use the slightly low angle for composition.

Low angle

High angle

Narrow low angle

Key points for professionals in designing figures

To summarize the book, we requested Kazuaki Morita to write a chapter on "key points for professionals in designing figures". Kazuaki Morita, busy at work, asked "Is it all right to draw the face only?" Seeing I made no response, he politely added "You'd better give me a theme."

"What about drawing the image of a woman warrior?" I asked. "Let me try. But this way, that would be too simple to draw the face only," said Kazuaki Morita.

I realized by then this was only a conceptualized theme, without concrete requirements. Professionals will think they only need to draw a replied face.

"Thank you so much for that," I said.

Hence, the manuscript with textual descriptions was delivered to the editorial department quickly.

Sketch 1

Drawn out directly according to imaginations. The general design is fundamentally completed at this stage.
Modify it with the design drawing, or add up other feelings to the images.

The designs at the time were:
● Uniform + armour
● Sense of top student (Kazuaki Morita)

Sketch 2

Draw up the figure's back to harmonize with the frontal impression. Find out the best sense for the drawing.

Kazuaki Morita said "Sketch 1 was directly drawn according to the designs."

We will find out here that the elements of the original design were "uniform + armour" (overall and outline designs), and the "sense of top student" (role of the figure).

The fundamental concept of such a figure was formed by accident. This is the basis of figure design.

Soon afterwards, there came three pictures to determine the sense of the upper body.

Sketch **3**

Sketch **4**

Here, the head ornaments, left arm armour, chest part, shirt-front, and girdle are all adjusted according to the angle of looking up. The figure design becomes more explicit. The designer keeps asking himself what the figure lacks in image.

This is not drawn randomly. On the basis of the figure in sketch 1, Kazuaki Morita presented two options. One is sketch 4, which is an experiment to show the figure in a opposite image to the original picture, relating to the body, skirt, left arm armour, head ornaments, and legs, except for the facial features.

This is a type to expose large parts of the body. The head ornaments are gone. The arm armour and skirt are abandoned. We see the traces of original manuscript only in the collar. This is practically a work exploring "whether we are able to express the sense of top student without armour and ornaments." This is a bold experiment of Kazuaki Morita in figure design.

Drawing the sketches of figures is normally done on the basis of communicating with clients. The figure is modified repeatedly to improve the senses. It takes a long time. This time, we did not elaborate on any details. We assigned the task to Kazuaki Morita for Another design of figure independent decision. So, Kazuaki Morita assumed we had clients with various priorities, and experimented to draw figures with opposite senses.

To the professionals, it might seem unprofessional to express his imagination so freely.

In other words, it runs against the professional spirit in figure designing to draw up the figure as he wishes.

Another design of figure

Sketch **6**

Refine the head ornaments of the original design program.

Complete

Comment

Complete the figure design fundamentally.

Key points
- Remember to differentiate the density of lines of the parts for contrast in the course of design.
- Do not make the overall impressions too dull.
- Do not spend too much time.

This is the full course of design.

Now you need to be aware of the differences between the final draft and first draft. Please think about 'the need to modify them and how to apply it 'according to the notes of Kazuaki Morita.

Only by thinking and accumulating experiences in this way will we become more experienced in sketch drawing with regard to figure design.
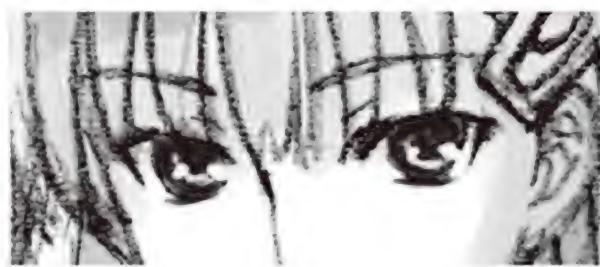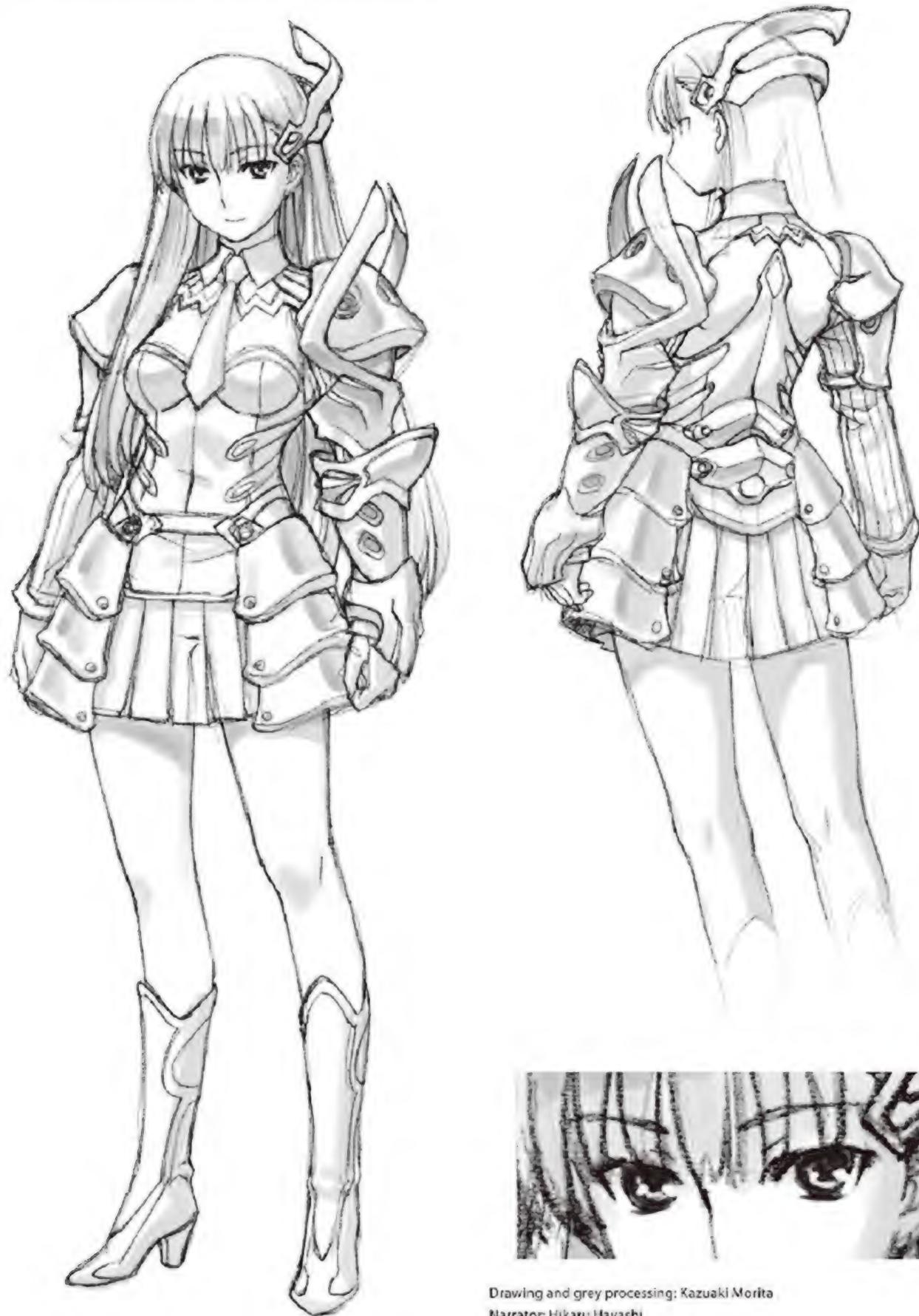
Drawing and grey processing: Kazuaki Morita
Narrator: Hikaru Hayashi

Atlas of sketches by Kazuaki Morita

Cover sketch 1 Dual figures a
Set the main figure and the experiment figure
for figure design as comrades-in-arms.

Cover sketch 2 Dual figures b
Lighten the color of the back figure slightly so as
to set off the front figure. (Kazuaki Morita)
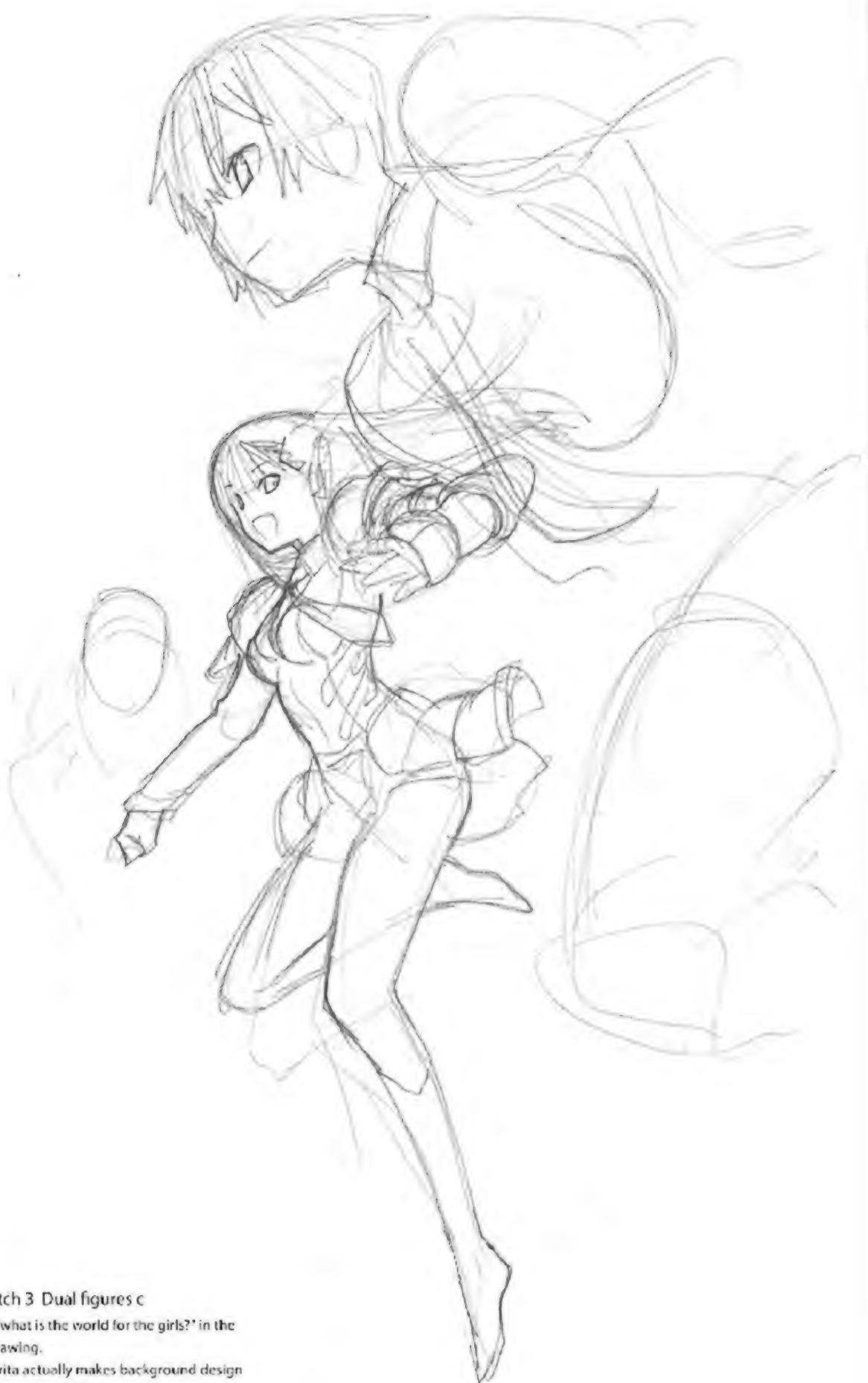
Cover sketch 3 Dual figures c
Think over "what is the world for the girls?" in the
course of drawing.
Kazuaki Morita actually makes background design
for that. (Hikaru Hayashi)

Cover sketch 4 Single figure a

Turning around under the angle of overlooking. If
this program is adopted, it will make readers think
the book is on armour and clothing design.
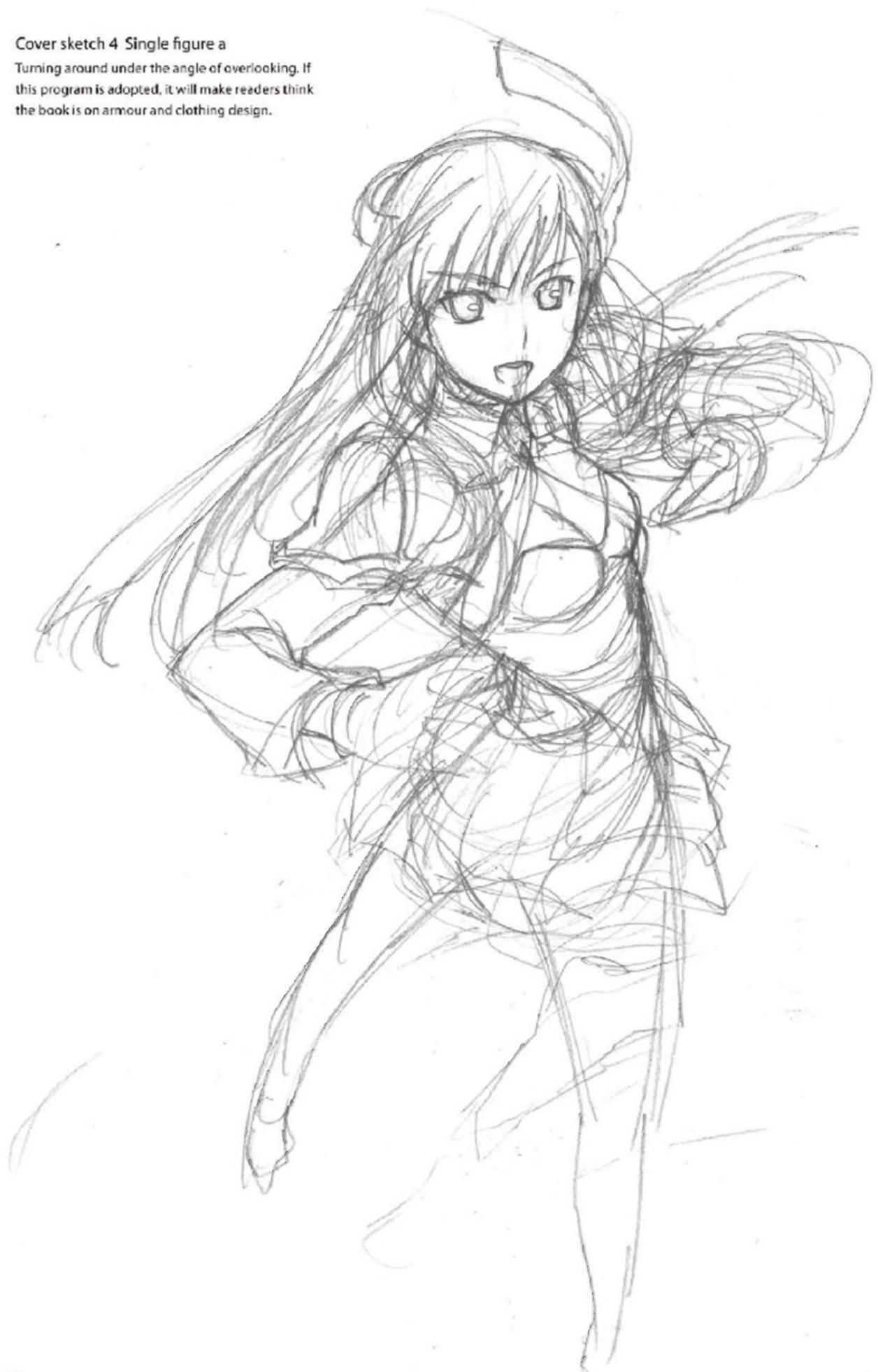
Cover sketch 5 Single figure b
On occasions, we will think of drawing a figure
like this. It will feel dull if we do not draw
something unique...
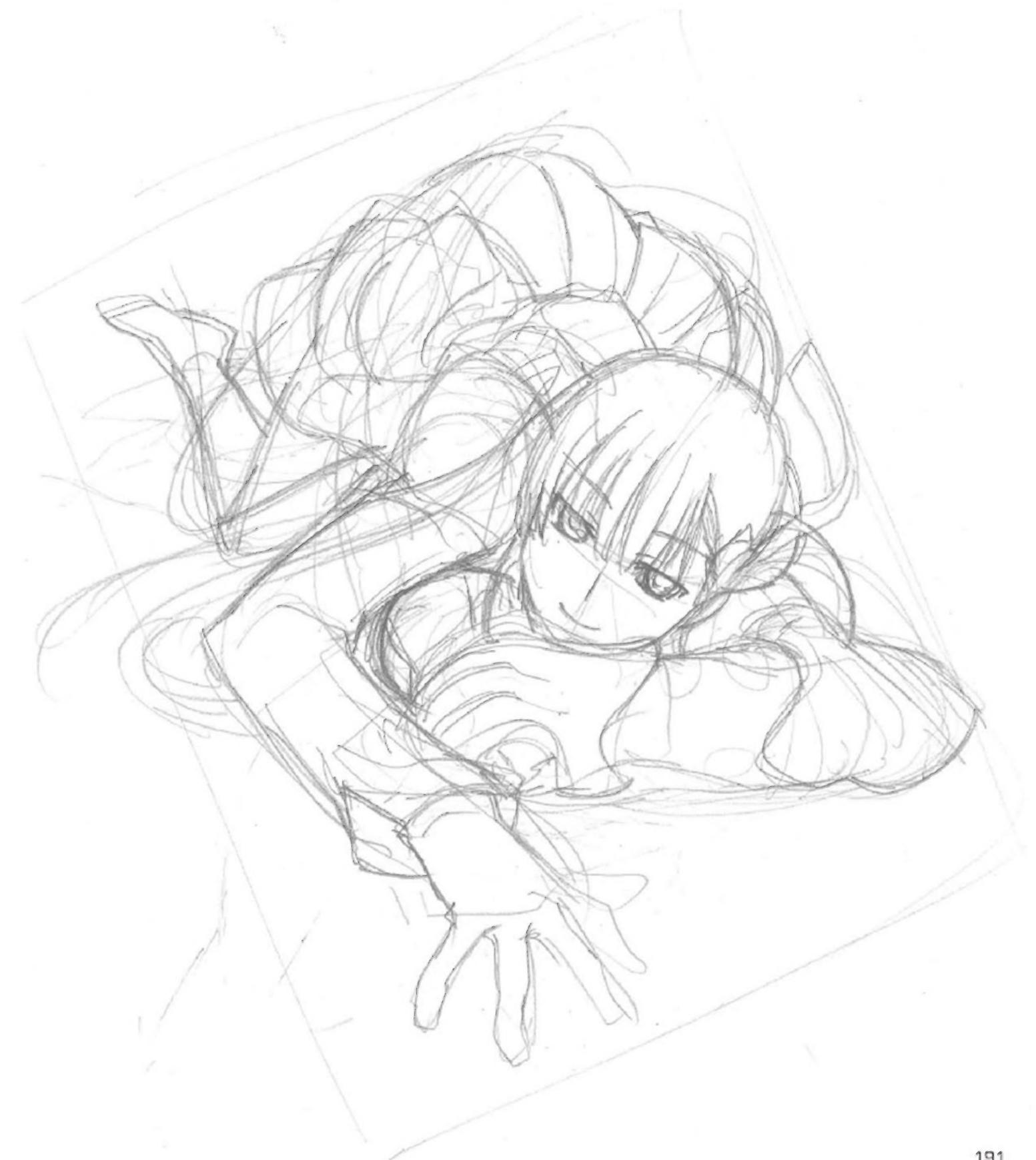
Cover sketch Final draft
It should look this way.

About Kazuaki Morita
Kazuaki Morita was born in Shizuoka Prefecture, Japan. He learnt from Master Shiro Ohno as a cartoon assistant in 1996. Since 1998, he joined Go Office to produce cartoon technique books, responsible for cover picture drawing. Since 2000, he began to design figures for computer games and make original creations. He entered Logistics Company in 2002, working at Team Till Dawn. He participated in figure design, original creation, drawing supervision and illustration drawing for the PS2 game Tear Ring Saga 2 -- Berwick Saga, and animation work Seto no Hanayome.

EXCELLENT
MANGA
SKETCHING TECHNIQUES